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Volume IV., New Series.

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American Medicine

FRANK CLARK LEWIS, M. D., *Managing Editor.*

PUBLISHED MONTHLY BY THE AMERICAN-MEDICAL PUBLISHING COMPANY.

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Complete Series, Vol. XV, No. 1.
New Series, Vol. IV, No. 1.

JANUARY, 1909.

\$1.00 Yearly
In Advance.

The Medical Dispensary Evil in New York City bids fair at last to receive proper consideration. Dr. M. O. Magid, the capable secretary of the Eastern Medical Society of the City of New York, presented a strong paper October 9th, 1908, before this society. His paper, the publication of which in this issue, we esteem a great privilege, led to the appointment by the Eastern Medical Society of a Dispensary Committee to study the dispensary problem, and devise feasible means for remedying its evils. In order not to limit the scope of the necessary investigations, this committee sought and obtained the co-operation of the Physicians' League. Representatives of both societies have therefore organized themselves into "the Joint Committee of the Medical Societies of the City of New York," with Dr. Magid as chairman. It is the purpose of the Joint Committee to get the co-operation also of the New York County Medical Society, the Public Health Section of the Academy of Medicine, and other medical societies in this city.

The Joint Committee held a meeting on Tuesday evening, December 15th, 1908, at the Cafe Boulevard, 156 Second Avenue, which was attended by over 400 physicians, among them being men who are practicing in all parts of Greater New York and neighboring New Jersey cities. The prin-

cipal speakers were Dr. S. S. Goldwater, Superintendent of Mt. Sinai Hospital of New York, Dr. Wolff Freudenthal, President of the Eastern Medical Society, and Dr. M. Frankel, President of the Physicians' League. District Attorney Jerome, who could not be present at this meeting gave assurances that he would give all the legal co-operation within his power. Among the hospitals and dispensaries represented were the Mt. Sinai Hospital, the Post Graduate Hospital, the Lebanon Hospital, Beth Israel Hospital, the Good Samaritan Dispensary, the Cornell Medical College Dispensary and the German Poliklinik.

The question of the abuse of medical charity in dispensaries was thoroughly discussed and the following suggestions were made, their further consideration to be taken up at subsequent executive meetings of the Joint Committee:

1. That the physicians working in dispensaries should receive a salary.
2. That a certain percentage of the Board of Directors of the Dispensaries should be physicians.
3. That the matter of abuse of medical charity should be brought to the attention of the State Board of Charities, in order to secure the co-operation of that body.
4. That the nominal charge of ten cents now paid in the dispensaries for tickets

of admission and treatment be abolished; the idea being that the dispensaries will then be compelled to treat the masses gratis, thus cutting off a great deal of financial income, which will force the smaller dispensaries who depend solely upon this income for their maintenance, to go out of existence. The effect of decreasing the number of dispensaries in each neighborhood will increase the responsibilities of the larger ones and when they are compelled to draw solely upon their membership for maintenance, they will be forced to seek ways and means of discriminating in admissions. This will reduce the crowds and it is believed tend to limit the treatment to only the worthy poor.

An awakening of the profession to its perils is apparently at hand. Sporadic efforts in this direction have been made from time to time for years, but with little or no avail. The situation has become so acute, however, that something must be done and very soon—or the general practitioner will become extinct. No greater loss could come to the people, for the family doctor has been one of the world's leading sociologic, as well as humanitarian forces. Dispensary practice or institutional medicine is at best a poor substitute for a physician in his individual capacity. From time immemorial hospitals and dispensaries, in the minds of laymen at least, have been looked upon as places primarily for the training and education of doctors, to fit them as it were, for the larger and more important duties of private practice. Few patients have ever chosen hospital treatment, except in the event of serious surgical necessity, in preference to home treatment with their

own personal physician. Within late years, hospitals have extended in every direction and a certain glamour has fascinated not only patients, but, alas! physicians themselves. The hospital and clinic for divers reasons have been exalted in medicine to a degree out of all proportion to their legitimate worth. This is no reflection on meritorious institutions, for well equipped, well managed hospitals have a place, the importance of which no sane man would think of minimizing. But that place is definite and circumscribed and it will never be otherwise. With the general practitioner, one great factor has ever stood for the benefit of the sick, and that is individual responsibility. In institutional practice there is to a certain extent a division of responsibility, and this while sometimes beneficial and perhaps rarely harmful, does place a patient in a quite different relation with his hospital physician than that which would exist between himself and his physician in private practice. Individual or personal responsibility means the highest type of service, perhaps more in the practice of medicine than in any other field of human activity. The foregoing is not an attack on medical institutions, simply a plea for the general practitioner and a truer recognition of his rightful place in the ceaseless struggle with disease.

Let us take our bearings, then, place proper and adequate values on institutions designed to dispense medical charity, maintain to the fullest the principle of never denying to the worthy poor the best that medical science has to offer, but once and for all set out to end this Frankenstein-like monster that we have so fatuously created.

Within the last few months AMERICAN MEDICINE has referred repeatedly to the dispensary evil. It was recognized as a great burning question, too large and menacing to be ignored much longer. That there are prospects at last of a full discussion of its various phases is almost too good to be true, for a full discussion, with the facts that will be developed, can hardly fail to lead to action of some kind. Much credit is due Dr. Magid and his associates for what they have already accomplished. AMERICAN MEDICINE is glad to cooperate to the fullest extent with this or any other coherent movement, intelligently directed to relieving a condition that has become little short of disgraceful. Nothing would be so gratifying as to see the inauguration of a strong professional campaign all over the country, with the sole object of correcting the evils of medical charity. Possibly this start in New York City will yet form the nucleus of a great national propaganda on medical economics. If so it will be a result which may mean everything in the future of legitimate medicine.

Let every medical journal in the country push this vital proposition until the profession are thoroughly aroused, not only to the presenting dangers, but what is more important, to the possibilities for relief, and it is certain that more real good will be accomplished than has ever yet been dreamed of.

The necessity for the most painstaking and thorough methods in experimental research is universally conceded. Valuable as is enthusiasm, it is always a menace unless accompanied by a mental balance that cannot be disturbed by hopes,

or prejudices. Robert Koch, perhaps more than any other one man, has emphasized the absolute necessity of thoroughness in laboratory detail. Indeed, the famous controversy on the inter-relation between different tubercle bacilli has been due entirely to Koch's insistence on the elimination of every doubtful factor in the solution of what to many seems an unimportant problem. Years and years of research have taught this great German scholar that error is always possible, even when seemingly every collateral fact bearing on a given proposition has been proven. In no branch of medical science is this more true than in bacteriology. We are just learning that bacteria are not as constant in their appearance and behavior as once was thought, and the identification of different families of any given species will now no longer be made by the bacteriologist offhand. The special bearing of the subject on tuberculosis, for instance, is shown by recent studies of certain groups of acid-fast bacteria, closely simulating the various types of tubercle bacilli. It is more than probable that many of these organisms have been mistaken for bovine types of the tuberculosis family, and without the most painstaking cultural or inoculation experiments, occasions must continue to arise when it will be impossible to positively identify acid-fast organisms found in milk, butter or other dairy products.

Moeller's Excrement Bacillus found in the excreta of cows, likewise his hay and grass bacilli, under certain conditions cannot be differentiated from tubercle bacilli by microscopic examination alone. Even cultural tests may prove unsatisfactory. Consequently we must resort to inocula-

tion experiments, for in these alone do we have a positive method of differentiation. It is well known that the more virulent an organism is, the more persistently it will retain its specific characteristics; or in other words the more active and vigorous it is, the better able it will be to resist environmental modification. This is in accord with the natural laws concerned in the phenomena of the so called conformation to type. The various tubercle bacilli with their high pathogenic power, in spite of repeated passing through animals, undergo little or no change in appearance. With the similar appearing, though slightly if at all pathogenic, milk, butter, hay, grass, and excreta bacilli we meet an entirely different condition. The first generation in a living host may be true to type, but the second and third usually begin to change their appearance, becoming branched, and giving off the mycelial threads so often seen in many of the streptothrices. With these facts so fairly well established, no milk, butter or other food can be condemned just because it contains acid-fast bacteria similar in microscopic and staining peculiarities to tubercle bacilli. To justify and prove any statements in regard to the pathogenic character of such food supplies, it is imperative to perform not only primary but secondary and tertiary inoculations. If these are done and the organism retains its rod like appearance, this evidence may properly be considered to be definitely corroborative of other data pointing to its tuberculous specificity. Without, however, such corroborative evidence there is always the possibility—in fact probability, because of their much greater distribution—that the organisms are really of innocuous types.

The teaching of medical ethics in medical schools cannot be too highly commended. Unfortunately the average medical curriculum renders the subject conspicuous by ignoring it, and too many graduates go forth to practice their profession absolutely devoid of any knowledge concerning the fundamental amenities of their calling. The result cannot fail to be detrimental, not only to individuals, but to the dignity and prestige of the profession. In a recent issue of the *Journal of the American Medical Association* Dr. J. D. Bryant refers to the course of instruction in the Principles of Medical Ethics, which he is giving to his classes and further says:—"I hope that all other institutions engaged in medical instruction will see the need of this ennobling activity and accordingly enter on it. It is far better, it seems to me, to start aright in this field of professional adornment, with early success, than later to labor harder with a comparatively disappointing outcome. In any event, I am anxious that the medical man graduating from the college which I have the honor to represent shall be afforded the opportunity to become as gracious and just in manner and method as he is equipped in professional attainments."

The Editor of the *Journal* in his comment says that no medical college should allow its graduates to enter on their life work unless they have received at least *one* lecture on ethics as it relates to medicine and medical conduct.

All this we heartily second, with, however, the amendment that not only one but many talks and lectures on the subject should be given. And what is more important the instructors in medical ethics

should not limit their course to words alone, but by *personal example* demonstrate the superiority of practice to precept.

It is certain that Dr. Bryant's students will carry with them through life the charm of his personality, and the particular exemplification of ethical conduct which he has so conspicuously set before his colleagues. A life and its endeavor squared with courage, courtesy and kindness are a constant source of inspiration to every man. Medical students, with a career of essential responsibility before them, need all the inspiration they can get. Is there any better measure of our own conduct in our professional relations, than its fitness for emulation by those who look to us for guidance?

The mental immaturity of school children is not fully realized by pedagogues, and as an almost invariable rule, subjects are taught several years before the brain is sufficiently grown to understand them. In an article on "Science and the School Boy Mind." (*Scientific American*, Aug. 22) there are numerous extracts from examination papers, showing that the students did not have the slightest conception of the matters studied, though the general trend of comment is to the effect that the teaching has been inefficient. The matter is the most serious defect in our public school system which in this respect really wastes the time of the student and the money of taxpayers.

Mathematics in the curriculum has invariably been out of place, for it is a science requiring adult brains. Even fractions and decimals are taught many

years before it is possible to understand them. Many a teacher knows that he did not grasp these matters until long after he had graduated from the schools where first taught them, and yet the old stupid nerve racking and nerve wrecking system is kept up. Here is a place where physicians are needed for the public duty of completely eliminating from the lower grades all studies which children can not understand. In particular, must we insist upon postponement of studies in physiology and hygiene until 14 or 15 years of age.

The proper age to begin education is wholly misunderstood. Of course a child begins to learn the minute it takes its first breath, and in its first three years it probably learns more than in any other subsequent three of its existence, but it understands little of the phenomena it perceives. Until it is nine or ten years old its whole purpose in life is learning its environment, and sometimes it is ten years more before it really understands the simplest things it has learned. It is therefore not at all strange that if a child is kept out of school until its brain is fairly well grown, say until 9 or 10, that its subsequent progress is greater than that of children who must often unlearn many of the absurd conceptions they formed in the first years of school life. We must realize that until nine or ten, the school is merely a nursery to relieve mothers of the home care of children, a species of socialism to which Americans are wedded. Studies now given to these tots must be postponed until 10 to 13, and subjects now given to these children are really appropriate for the ages of 14 to 17, and so on. Every time

a teacher reads absurdities in examination papers she should realize that the child is generally too young, and that the whole system must be changed.

The origin of life from distant planets is a wild theory which comes up for discussion every now and then in spite of its absurdity. Famous scientists have suggested it because they cannot conceive of a gradual evolution of life from "non-living" but exceedingly simple forms of nitrogen compounds which were the ancestors of protoplasm. Because famous men have fathered the idea, less famous ones cannot see its absurdity. The recent experiments in freezing lower organisms leave no doubt that a great extraction of heat is always fatal in the long run—perhaps simple freezing for a few months in all cases. Interstellar space is at the absolute zero of temperature, hundreds of degrees lower than freezing. If a distant planet explodes, it is evident that its particles, to which might adhere some living protoplasm, would be chilled to this degree in a short time, and as they would require some hundreds or thousands of years to get here even if they traveled faster than any known celestial body, it is evident that the protoplasm would be dead practically at the start. As for "the chance arrival on our planet of some ultra virulent germ" which might produce an epidemic fatal to the human race,—why, the idea is too absurd to be taken seriously. Arrhenius, the great Swedish chemist, thinks that perhaps germs might come here, propelled by light, and that their vitality would be preserved by the cold of interstellar space. If he knew just a little about biology, he would not have made such an absurd suggestion.

The slow evolution of life is never mentioned by evolutionists, who almost to a man, demand a sudden creation of life or arrival of life at some period in the past when the cooling globe became fit for living things as we now know them. Every evolutionist abandons evolution when he goes back to that point. To be consistent they should trace backwards the evolution of the highly complex nitrogen compound—protoplasm—to simpler and simpler forms able to exist at higher and higher temperatures until we reach nitrogen gas itself. Such a thought should be acceptable to both vitalists and materialists, dualists and monists, for the one can imagine it to be the slow evolution of a vital principle from other forms of energy and the others can consider it a mere modification of known chemical and physical forces. In other words, present day philosophy should be satisfied that life as we know it, may never have been suddenly created, but took on its present form from prior simpler ones—a gradual evolution from what is generally considered the non-living—a process which cannot occur again on earth for the causative conditions have gone forever. Nor indeed is there an early prospect of our finding out what those conditions were and repeating them in the laboratory. No matter how many "organic" nitrogen substances we now make, they are all as dead as dead can be. Life now arises only in the direct line of living things, a line extending back millions of years. But this thought is uppermost, the heat was once intense and has been progressively lessening. Living things therefore never did exist in a cold environment for there never was one on earth. Dr. A. C. Lane is the last one to discuss the origin of protoplasm

(*Science*, Aug. 2, 1907), but he too seems to demand a time when it arose suddenly and not gradually from simpler nitrogen ancestors.

The compulsory notification of tuberculosis in spite of the opposition it has received from many quarters is gradually extending as a health ordinance. Cities or towns that have become centers for health seekers are necessarily giving most attention to the proposition, but few as yet have actually demanded the reporting of cases of tuberculosis. Pasadena, California, long a favorite resort for pulmonary invalids, is the latest city to pass a strict ordinance, requiring not only the reporting of tuberculosis cases, but also the fumigation of all rooms or houses vacated by consumptives. This latter is done by a city official at the expense of the city. Such a progressive step is most commendable and will sooner or later be recognized as a most important detail in the prophylaxis of tuberculosis. The gratifying results that have followed the compulsory notification regulations of New York City, a pioneer city to adopt such a plan, have been an object lesson to sanitary workers the world over. Experience has seemed to show that such laws are most effective when framed and executed by local authorities. A law passed by the Vermont Legislature in 1902, calling for the reporting of tuberculous patients, in spite of the efforts of an able board of health has never produced the benefits that have so conspicuously followed similar measures in the form of municipal ordinances. Cities therefore should recognize the duty created by their special opportunities for contributing so materially to the conquest of tuberculosis.

Our able contemporary, *The New York State Journal of Medicine* has suffered a real loss in the resignation of its Editor, Dr. James P. Warbasse. Under his competent direction it has been one of the best of the state journals, and that is saying a good deal, for many of them are splendid exponents of modern medical journalism. *The New York State Journal of Medicine* has not claimed perfection,—that perhaps has been one of its principal charms—but it has been clean, liberal and fearless. No one could question the fundamental honesty of its motives and the mistakes that have been made have been honest mistakes. In the current issue Dr. Warbasse has his valedictory and a most interesting article on medical journalism. Both are well worth reading, even though the reader cannot glean all that he would like to, between the lines. With much that Dr. Warbasse writes, we heartily agree; with a small part we disagree, but this disagreement is due simply to different personal views. He may be right or he may be wrong. It is just as one looks at the proposition.

The question of advertising in medical journals is a large one and all of its various features cannot be regulated in a minute to satisfy everybody's wishes. It takes time to establish standards fair to all and to execute them in a square way without doing needless harm and injury. We do not agree with Dr. Warbasse that an official journal should have no advertisements, unless all advertisements are wrong,—in which event, no journal should accept them. The matter cannot rest here, for if all advertisements are venal, the products advertised are likewise, and the whole business of medical and pharmaceutical supplies is wrong. Surely this is the *reductio ad absurdum* and comes pretty close to the rash mistake of the

Psalmist, who was admittedly altogether too hasty and generic in condemning his fellow men. No, the pharmaceutical business, the publishing business and the other enterprises that commonly advertise in medical journals, are as honest as medicine itself. They have their evils and their rotten spots, but so has medicine. The problem is to find the good and eliminate the bad, and the official journals are in an admirable position to aid in its solution. Narrow prejudices, personal ill feeling and petty antipathies will never help. Common sense, a temperate exposition of fallacies, and a scientific consideration of mistakes, will do more to overcome the real evils than all the vituperation, mud slinging and muck raking in the world. Intolerance and ill temper only substitute one evil for another. *The New York State Journal of Medicine* has shown neither, and we believe it has helped its readers accordingly. *The Journal of the New Jersey State Medical Society* is another official journal of equal balance and dignity, and there are others. All this shows that there can be no quarrel between the so called independent journals, and the so called official publications. Pretty much the same problems, the same difficulties and the same needs confront the journals of each class. All want to succeed, to be useful, and to avoid that which will lower standards of efficiency or decency. Will quarrels help? Never, but they will hurt and hold us back. So for one, AMERICAN MEDICINE is going on. It admires and respects its contemporaries for the large amount of good it finds in all of them. It is going to traduce no one, truckle to no one, fear no one. It aims to be the very best, cleanest and most useful journal its editors can possibly make it. An era of transition, of changing ideas, and shifting values is at hand. Cool heads, earnestness, dignity and journalistic balance are needed as never before. To measure up to these requirements is our aspiration.

We believe that Dr. Warbasse did,—that is why we and a good many others will miss him from the field.

The National Health question is gradually but none the less surely shaping itself. It is almost settled that a carefully drafted bill will be introduced at the next Congress, with the object of uniting all national public health agencies into one well organized bureau or department. One of our esteemed contemporaries, however, has uttered a vigorous protest against any move that comprehends sacrificing the Marine Hospital and Public Health Service. Appreciation is thus rightly shown for the splendid work that this Service has done throughout the country, and Surgeon-General Wyman and the capable men under him deserve all the kind and complimentary words that have been spoken concerning them.

It hardly seems possible therefore, that there is any one who would countenance dispensing with the services of the men who have been trained—and so well trained—in the M. H. and P. H. Service. To us, to utilize their experience and training in new and better ways, enlarging their activities and influence, would seem to be the first and most fundamental detail of any practical re-organization plan. If we are going to have a National Health Bureau, in heaven's name let it be officered or directed by capable trained men. No greater handicap could be placed on the proposed bureau than to have its personnel made up of inexperienced men. A good physician or surgeon may be sadly deficient as a sanitarian, chemist or hospital director. Consequently if the proposed bureau is to be made up of physicians whose principal if not only claim to appointment is political preferment, better by far to continue in our present way. But if ample provision is to be made from the very first for building up a National Bureau of Health with picked men from the Marine Hospital Service, and every other bureau as well, no fears need be entertained as to the benefits that will follow.

ORIGINAL ARTICLES.

SOME REMARKS ON LATENT MALIGNANT DISEASE OF THE STOMACH.

BY

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A certain proportion of instances of gastric cancer indubitably deserve the attribute latent. This latency is not always of the same degree nor character; but common to all latent malignant growths of the stomach is the fact, that they do not evince their presence by the classical pathognomonic symptoms. The moment the usual diagnostic signs permit of the definite diagnosis of malignant disease, the growth bears no longer a latent character.

Latent gastric cancers may be divided into two general groups that is:

First, cancers which do not manifest their presence by any gastric symptom, and,

Second, cancers concurring with indefinite gastric phenomena not pointing to malignancy.

To the first group belong the malignant growths which, if at all recognized during life, are not detected until very late. Their presence is often not suspected until one confronts them at the autopsy table. Although the patient may exhibit all the earmarks of a carcinomatous cachexia, there is in these instances absolutely no evidence that the pathological process is situated in the stomach or has started from there. At the same time the growth may have attained considerable size, but may be entirely concealed by the liver or the costal segments in the left mammary-hypochondriac region.

According to the cases on record and my own experience, latent gastric cancer appears at the same period of life as does gastric cancer in general, and, like the latter, it supervenes decidedly more frequently in men than in women.

The *Scirrhus* is that form of carcinoma which, when situated in the stomach, appears to occur in a latent state much more frequently than any of the other varieties. There are mainly two reasons why a scirrhus of the stomach has a certain tendency to run a latent course, namely, its usual small size and the comparative resistance to ulceration of its dense fibrous tissue structure. In as far as a scirrhus growth does not break down readily there may not be encountered in the washwater, from lavage of the empty stomach, any of its macroscopic or microscopic constituent elements. Such form elements may point to the existence of an ulcerating cancer, but even then they are not in themselves pathognomonic for cancer, as similar cells and tissue fragments occur in simple atrophy of the gastric mucosa.

When the scirrhus involves but a limited area of the gastric organ, free hydrochloric acid in normal or nearly normal amounts is not infrequently present. This is contrary to orthodox teaching, but it is nevertheless a fact. Besides, the absence of free hydrochloric acid is a phenomenon which is not linked to gastric cancer alone. Any disturbance, local or systemic, interfering with the normal permeability of the gastric mucosa is apt to retard or to check the production of hydrochloric acid; for instance, in the atrophic stage of gastric catarrh, the symptomatology of which has much in common with that of extensive uniform scirrhus infiltration of the stomach, free hydrochloric acid is

hardly ever discovered. Non-detection of free hydrochloric acid in the presence of advanced carcinomatous growth of the stomach, however, is not always synonymous with its non-production, a fact which will be discussed in another article.

Again, insufficiency of hydrochloric acid in its free state permits the pathological multiplication of lactic, acetic, butyric and other bacilli. Abnormally large numbers of such microorganisms are consequently not pathognomonic of malignant disease, but only point to a deficiency of inorganic acid with its inhibitory power.

A scirrhus not located in immediate proximity to the pylorus does not cause stenosis of the latter and consequently gives no rise to stagnation of food in the stomach, that is, to processes of hyperfermentation and the evolution of undue amounts of organic acids. Lactic acid, the occurrence of which is so much relied upon by many clinicians in the recognition of gastric cancer, will under these circumstances not be found in pathological amounts. Especially will this be the case when the production and normal utilization of the hydrochloric acid has not been interfered with. Again, if lactic acid should even be discovered in appreciable quantity by the ordinary clinical methods, it could not serve as evidence for the malignancy of the pyloric stricture. Prolonged retention in the stomach of food composed of proteids and carbohydrates (fats play rather a secondary role in this connection), due to any cause, is frequently followed by the increased formation lactic and other organic acids, and this may even ensue when the production of hydrochloric acid has occurred in the normal ratio.

There will be no hemorrhage as long as there is no breaking down of tissues, and many a case of gastric scirrhus runs its course without disintegrating and giving occasion to the oozing of blood. Vomiting and anorexia are by no means constant phenomena in gastric cancer; they may be present at the very onset of the affection and disappear at the direct rate of its progress. Emaciation, of course, is and remains a very trustworthy symptom of malignant disease of the stomach, but it is nevertheless true, that a patient may gain in body weight as long as the growth does not prevent emptying of the stomach, and as long as the greater portion of its eventual disintegration products is excreted without having entered the lymph or blood circulation.

Besides emaciation, pallor which is frequently of a yellowish hue, and an extreme lassitude and weakness are the usual concomitants of malignant disease of the stomach, but by the presence of these three phenomena alone, even when concurring with indistinct gastric symptoms, a positive diagnosis of latent gastric cancer cannot be made.

Medullary cancer, breaking down readily, concurs mostly with absence or deficiency of hydrochloric acid, but when situated so as not to interfere with the entrance of nutriment into and the exit of chyme from the stomach, it may run an entire latent course. It is of much more rapid growth than the scirrhus, and although it may attain considerable size, the softness of its structures will often frustrate attempts at palpation. Moreover, it is often localized in the lesser curvature, which fact in itself may preclude detection by palpation or percussion. Enceph-

aloid cancers, it is true, are apt to ulcerate on the surface and extravasation of blood into the stomach is by no means unusual; however, as the medullary growth is so frequently situated in the lesser curvature in close proximity to the pylorus, its disintegration products and the oozing blood are readily transported through the pylorus as long as this is patent. *Adenocarcinoma* of the stomach exhibits similar characteristics as the medullary cancer, and may remain concealed throughout its course. *Colloid* cancers have the tendency to rapidly extend through the walls of the stomach and to involve the peritoneum. For this reason their presence soon manifests itself, and we cannot, as a rule, speak of latent colloid cancers of any portion of the digestive tract.

Sarcoma occurring in the stomach may appear in a distinctly concealed form. There may be a good appetite for a long time, and the body-weight may be almost maintained throughout the greater part of the illness. Vomiting of blood may not ensue at all; in most instances it supervenes but shortly before the lethal termination. Pain may be felt early, but it disappears after a while, as a rule. Its temporary occurrence is but a vague phenomenon to which no pathognomonic significance can be attached in a great proportion of the cases. In 17 instances collected by Staehelin (*Archiv. f. Verdaunungs Vrankheiten*, 1908, No. 2), entire absence of free HCl with the presence of lactic acid was determined in but 11 cases, and the Boas-Oppler bacilli could only occasionally be demonstrated. The sarcomatous infiltration frequently extends over the entire gastric walls, but the orifices may remain free from involvement. Thus the non-occurrence of distinct gastric symptoms may

find its explanation. Furthermore, myosarcomata as well as fibrosarcomata may be connected with the stomach by narrow pedicles only, and, for a longer or shorter period, there may be no stomach symptoms whatsoever.

Contrary to the statements of some writers, the pain in malignant disease of the stomach may bear the same intermittent character as that occurring in gastric ulcer. It is entirely dependent upon the nature of the growth, its location and size, and the degree of irritation called forth by the intake of food or by the substances resulting from the decomposition of the latter.

Furthermore, cancer of the stomach may run its entire or the greater part of its course without occasioning any real pain, or without producing more local uneasiness than any other gastric disease which may have antedated the carcinomatous condition. I firmly believe that a great number of the pertaining instances are overlooked on account of the absence of this subjective phenomenon. Moreover, it is by no means uncommon that the beginning of the cancerous degeneration is held to be synchronous with the first appearance of pain, a pardonable mistake in the event of the latency of other symptoms.

The absence of symptoms pointing to the stomach as the seat of malignant disease explains, to some extent at least, those instances of the affection known as foudroyant which, to all appearances, rapidly terminate in death. Such cases are supposed to run a fatal course in from one to two months. While there is no doubt at all that a case may terminate lethally soon after its true nature has been recognized, there can be just as little doubt that the malignant disease had existed before it manifested itself by tangible symptoms. The acuteness of

a certain instance of malignant disease of the stomach, in my opinion, is nothing else but the rapid disintegration of a cancerous growth, the presence of which is not known until its very process of disintegration, and the various phenomena resulting therefrom, have ensued. Again, it is true enough that the great majority of cases of gastric cancer succumb within twelve or fourteen months from the first appearance of the symptoms, but this does not preclude that the malignant process had not preexisted in a latent form for a longer or shorter period. We are, I dare say, not far out of the way when we assume that the average duration of gastric cancer is about twice as long as that of its apprehensible symptoms, and that there are but very few instances of the affection, the beginning of which is synchronous with the advent of gastric phenomena. While, practically, every malignant process of the stomach runs a concealed, that is a latent course for a certain period, the cases which remain latent during their entire existence or the greater part of it, form but a comparatively small proportion. There are no definite early signs of gastric cancer and none of the methods advanced for the early diagnosis of the disease are of any practical value prior to a certain developmental stage of the malignant process.

The following three cases from personal experience are cited to show how easily the clinical symptoms may be misinterpreted, and malignant disease of the stomach be wrongly diagnosed.

CASE I. Man 44 years old, greatly emaciated, pale and weak. Vomits frequently, vomit resembling tobacco juice. Complaints of pain in stomach, especially after meals. Frequent eructations. Food leaves stomach in from 7 to 8 hours. Gastric contents were examined after Ewald's test breakfast six times. An hour before ingestion of test breakfast lavage

was performed in every instance. Average amount withdrawn 400 cc.; free hydrochloric acid traces; lactic acid large amounts; occult blood. Gastrectasia; gastric tenderness on pressure, no palpable tumor. *Diagnosis:* Latent gastric carcinoma.

Remarks: Two years and nine months after the period of observation the former patient continues in his position, has gained about fifty pounds, and apart from occasional attacks of vomiting, feels very well.

CASE II. Man in the cancer age; icterus; anemia; remarkably emaciated. Cannot walk without assistance. Pain in stomach practically all the time, increasing on pressure. Vomiting. Gastrectasia. No palpable tumor. No free hydrochloric acid. Abundant amounts of lactic acid. Presence of Boas-Oppler bacilli. *Diagnosis:* Latent malignant disease of the stomach.

Remarks: The patient, according to his physician, two years after examination had gained sixty pounds in weight, and appeared to be in perfect health.

CASE III. Man 64 years old; very pale and weak; has lost ninety pounds of weight since the beginning of his illness four months ago. At first there was incessant vomiting for about six weeks. Patient had been in the private hospital of a well-known surgeon who had diagnosed the case as one of gastric carcinoma. A number of consultants had confirmed the diagnosis. There is some gastric pain; distinct gastrectasia; no tumor that is palpable. Traces of free hydrochloric acid; lactic and acetic acids in undue amounts; presence of Boas-Oppler bacilli; occult blood. The diagnosis of the previous observers was confirmed.

Remarks: Patient has regained his former weight and strength, and attends to his affairs, but is still very anemic.

The second general group of latent gastric cancers comprises those cases of malignant disease of the stomach which, although accompanied by symptoms arising from the latter, exhibit no phenomena from which their malignant character could be adduced. These instances are usually mistaken for either non-cancerous affections of the stomach, for maladies of other organs or, on account of pronounced metastases in other parts, for primary malignant disease of the latter. The stomach symptoms in these cases are commonly held to be unimportant or to be entirely deuteropathic.

A cancerous growth of the stomach is not infrequently masked by vague and rather mild gastric phenomena. The fol-

lowing illustrative cases have come under my observation.

CASE IV. Man 48 years old. Anorexia for about 3 months, and subsequent emaciation. pronounced pallor of the skin and mucous membranes. No difficulty in deglutition or defecation. No gastric pains. Hepatic and splenic dullness normal. Gastric tympany increased downward to about 1 cm. from umbilicus. No palpable tumor in stomach or abdomen. Free hydrochloric acid, also increased amounts of lactic acid in stomach contents. No vomiting until last two days before exploratory incision; then some decomposed blood was ejected. Rectal temperature 101 deg. F. *Diagnosis:* Suspicion of cancer in posterior wall of the stomach. (No diagnosis attempted until the day preceeding exploratory incision.)

Exploratory incision: Large flat scirrhus in posterior wall of the stomach, metastases in the liver.

CASE V. Man 54 years old. Neurotic temperament. Anorexia. Progressive emaciation, pallor and weakness. No gastric pain; no vomiting; no palpable tumor. Slight gastrectasia. Frequent eructations. Free hydrochloric acid in stomach contents, also lactic acid. Stomach empties itself in from five to six hours. Constipation. *Diagnosis:* Gastric motor insufficiency.

Necropsy: Large hard nodular cancer in posterior wall of the stomach. No metastases.

Vague gastric symptoms caused by a concealed carcinoma are more often attributed to a disease of the liver (or gall-bladder) than to that of any other organ; this is especially the case when the patient presents the history and earmarks of an alcoholic. The following two cases occurred in my practice:

CASE VI. Man 52 years old, alcoholic. Much emaciated and very weak. Icterus and glycosuria for some months. Liver much enlarged and quite hard. Hepatic dullness continuous with that of the heart. Slight ascites, but pronounced edema of both legs and serotum. Rectal temperature 100.5 deg. F. No gastric pain, but pain in hepatic region. No palpable gastric tumor. Little gastrectasia. Nausea and occasional vomiting of biliary matter. *Diagnosis:* Hypertrophic cirrhosis of liver; perihepatitis and hepatogenous glycosuria.

Necropsy: Annular carcinoma of pyloric region not causing complete obstruction of the pylorus. Metastases in liver and pancreas.

CASE VII. Woman 37 years old. History of gastric ulcer. Neither much emaciated nor excessively weak. Pale icteric hue. Gall-bladder is palpable and very sensitive on pressure. No distinct pressure points referable to gastric

ulcer. No gastric pain. No discernible tumor in the stomach. Vomiting rarely, and then only when constipated. *Diagnosis:* In doubt on account of history of gastric ulcer; probably chronic cholecystitis and biliary calculi.

Exploratory incision: Large medullary cancer in posterior wall of the stomach; small metastatic cancer nodules in adjacent organs; gall-stone disease.

The following case with indefinite gastric symptoms belongs to this category.

CASE VIII. Man 26 years old. Progressive emaciation; great weakness. Occasional vomiting of partly digested masses, never of blood. No gastric pain but oppression behind the sternum above the manubrium. Attacks of dyspnea. Very irregular heart and tachycardia. No palpable gastric or abdominal tumor. Free hydrochloric acid in gastric juice. Rectal temperature slightly elevated. *Diagnosis:* Malignant disease of the mediastinum.

Necropsy: Hard cancerous mass between esophageal and pyloric orifices occupying about two-thirds of the lesser curvature. Metastases in liver and lesser omentum. Pleuritic exudate of serous nature.

There are a number of cases on record in which latent malignant disease of the stomach occasioned metastases in the bony structures, especially in the spine and the lower extremities, and in which the metastatic accident was deemed the primary and main affection. Gastric carcinoma, as is well known, is not infrequently followed by metastases in the bony structures; however, when any and all definite gastric symptoms are wanting, and there is positive evidence of spondylopathy, malignant disease of the stomach is, of course, not thought of, as a general rule. Again, the clinical picture in these instances of vertebral disease points by no means to a cancerous affection, but to spondylitis or compression-mylitis. Such cases perish generally while in a very cachectic state. Some years ago I had occasion to study two cases of what appeared to be compression-mylitis, both of which, I am reasonably certain, were cancerous in nature and originated metastatically from a malignant affection of the stomach. As an autopsy

was refused in either instance I cannot furnish proofs of my contention.

From the foregoing the following inferences may be drawn:

1. A certain proportion of instances of gastric cancer run a concealed, that is, a latent course.
2. Latent gastric cancers may be divided into two general groups, namely, such which do not manifest their presence by any gastric symptom, and those concurring with indefinite gastric phenomena not pointing to malignancy.
3. The scirrhus, when located in the stomach, occurs much more frequently in a latent state than any of the other varieties of malignant disease.
4. Latent malignant disease of the stomach is often not recognized on account of the absence of pain.
5. The acuteness of certain instances of malignant disease of the stomach means nothing else than the rapid disintegration of a cancerous growth, the presence of which had not heretofore been recognized.
6. The average duration of gastric cancer is about twice as long as that of its apprehensible symptoms, and there are but very few instances of the affection, the beginning of which is synchronous with the advent of gastric phenomena.

THE ABUSE OF MEDICAL CHARITY AND A REMEDY.¹

BY

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The subject of medical charity and its abuse has been discussed from time to time by persons interested as philanthropists, as physicians or hospital officials. Various remedies have been suggested and while a few improvements have been effected, much abuse still exists. My object in writing this paper is not so much to suggest original methods of remedy, but to bring before you the conditions as they ex-

ist and to urge you to take practical steps to improve them.

Before going directly to the subject it is necessary to consider for a short while the subject of general charity.

As far back as can be traced in history, there has been in every community a poor class. The poor have not always been dealt with from a charitable standpoint however, but rather from other motives, sometimes political, and sometimes religious.

In almost every community, the State tried at first to stop beggary and vagabondage by repressive measures. This however did not solve the problem. Beggary still existed, and the public was induced to give alms to more unworthy than to worthy cases. In time, noted philanthropists and students in economy took up the study of charity and sought for more scientific methods to cope with the evil. This led to the establishment of Charity Organization Societies in almost every important community. These societies handle systematically and very effectively the great masses of the poor. Their chief aim is not so much to give immediate relief, although this is done when necessary, but to help the people to help themselves. Their object is not to pauperize the poor and make them dependent, but rather by means of securing them employment, improving their education, elevating their home conditions, and by raising their standards, make them independent self-respecting citizens.

The New York Charity Organization Society has a very excellent system of investigation by which they ascertain all the circumstances of the case, without intruding too much upon the privacy of the individual. After the applicant is inter-

¹Read before the Eastern Medical Society of the City of New York.

viewed at the office of the Society, an investigator is sent to the home to ascertain whether the conditions are as presented. In case of emergency, immediate relief is rendered. The investigator reports in full on the case stating what in her opinion is the cause of poverty and what would be the most far reaching method of improving the conditions.

The causes of poverty as analyzed by the professional charity worker are grouped as follows:

SUBJECTIVE CAUSES—

Characteristics of the Individual

Undervitalization and indolence

Lubricity

Specific diseases

Unhealthy appetites

Habits producing and produced by the above Characteristics.

Shiftlessness

Self abuse and sexual excess

Abuse of stimulants and narcotics

Unhealthy diet

Disregard of family ties

OBJECTIVE CAUSES—

Inadequate natural resources

Bad climatic conditions.

Defective sanitation, etc.

Evil associations and surroundings

Defective legislation and defective judicial and punitive machinery.

Misdirected or inadequate education

Bad industrial conditions

Unwise philanthropy.

From this classification of causes of poverty, you see how interrelated are the problems of General Charity and Medical Charity.

Medical charity is distributed through the following channels, namely, hospitals, dispensaries, and district nurses. I shall not dwell to any extent upon the work

done in the hospitals and through district nurses, since no appreciable amount of abuse can be traced through these agencies. I shall confine my remarks chiefly to the work done in dispensaries.

The primary object in organizing a dispensary is to provide medical and surgical aid and medicine, to such persons as may be in need thereof and unable by reason of poverty to procure them. The origin of the dispensary dates back to Hippocrates, who lived 460 to 357 B. C. Hippocrates bound himself by oath that "he would all his life visit the sick poor and give them advice gratis."

The first dispensary opened as a distinct institution was allied to the St. Bartholomew's Hospital, London, in 1770. Between 1774 and 1789 nine other dispensaries were established in London. As early as 1805 the dispensaries were subject to parliamentary investigation and regulation for the purpose of correcting the existing abuses.

The first dispensary in America was established in Philadelphia in April, 1786, and it was incorporated in 1796 as the Philadelphia Dispensary.

The New York City Medical Society in 1790 appointed a committee to formulate a plan of a dispensary for the medical relief of the sick poor of this city. The Society also offered the services of its members to carry the plan into effect. The second dispensary in the United States was incorporated in 1791 as the New York City Dispensary.

The dispensaries in New York City increased in number keeping pace with the increase of the population. These institutions were established in different parts of the city. The Northern Dispensary was organized in 1827; the Eastern in

1832; the Demilt in 1851; the Northwestern in 1852; the Northeastern in 1862; the Manhattan in 1862. In addition to these, private dispensaries were organized to relieve the large number of applicants who sought medical and surgical aid and could not be accommodated in the already existing dispensaries. Later, the hospitals established outpatient departments to treat those cases that required after-treatment. The teaching institutions found it advantageous to themselves to establish dispensaries to give their students an opportunity for practical study and research work.

Now the question is: Does medical charity as carried on at present through the various channels fulfill its purpose? Yes and No. From the scientific standpoint—yes.

The equipment in the hospitals and dispensaries so far as apparatus and hygienic surroundings are concerned, is up to the highest standard of excellence. By this means a larger number of cases are brought to the attention of the physicians giving them an opportunity to enlarge their experience along particular lines, making them better able to handle their private cases.

From the philanthropic standpoint—No. The present system of admission, especially in the dispensaries, is the cause of a great deal of abuse, and as a result, medical charity as distributed through the dispensary and outpatient departments, is really a system of "cheap doctoring," with a tendency to pauperizing the recipients.

No doubt all of you have seen the waiting room of the dispensaries filled with crowds of persons, who, though suffering from only slight ailments, that could be relieved by some home remedies, prefer,

because of the cheapness of admission, to have a doctor look them over. Here they receive their prescription for a laxative or a liniment and their medicine besides,—all for ten cents. Why should they not go to the dispensary? This crowding however causes needless waiting and increases the discomfort and pain of those who are actually suffering from severe ailments. The real harm from indiscriminate admissions to dispensaries is not that a few mendacious, mean-spirited rich impostors slip in and get free treatment, but that the whole wage-earning class,—including mechanics, salesmen, stenographers, clerks, bookkeepers, dressmakers, etc., nearly all of whom could afford to pay the physician privately,—is gradually being taught that medical attendance is something they should receive for nothing and that there is no disgrace when they pauperize themselves by begging for it. These patients attend not only one dispensary, with one particular ailment, but wander from dispensary to dispensary, and from department to department in the same dispensary. This entails so much duplication of medical and clerical work, that very little time is left to give the worthy cases proper investigation and treatment.

Who is responsible for this abuse? The people are not to blame, they are but human. Who would not accept a free pass for the theatre if this were as easily obtained as dispensary treatment, which may be had for the asking? Those who are responsible for this abuse are the institutions and the men who work in them in the various capacities, giving their valuable time and effort without compensation. If the physicians were not so eager to spend so much of their time, the dispensaries would not be in a position to cater to so many

patients, and as a result, the management would probably seek to keep out all except those who are actually unable to pay for the aid they are seeking. The physicians, too, would feel the effects of such a change. If a physician, attending a clinic three times a week, sees on an average five unworthy patients a day, think of how much is lost to the profession financially each year. Think of how many doctors could earn their livelihood under the circumstances without becoming the servant of miserable societies, which position the doctor is compelled to occupy only through his dire need and not because he personally desires to do so. I do not wish to be understood to say that physicians should not work in dispensaries, but I do wish to emphasize that physicians should not work in such dispensaries where the management does not make any effort to observe the laws of this state, which were passed with the idea that such abuse should be eradicated.

Another agency in this city which tends to pauperize the public is the Lying-In Hospital. This hospital is of great service to the poor and its existence is justifiable. It is also a great help to the physician in that he now has a place to send a septic or other kind of serious case which requires treatment that cannot be given them at home.

But the hospital goes a step further. It sends out notices to the effect that a call will bring a physician at any time, night or day. The hospital does not investigate whether the case deserves free treatment or not, but immediately sends a physician and he, being glad of the opportunity to gain experience, does the work gratis, even when the patient could well afford to pay for his services. I had occasion to see a

number of cases after the Lying-in physician was supposed to be finished with them. These patients really should have been ashamed to make use of a charity so generously offered, as in nearly every case the husband earned fair wages, as was shown by the fact that they paid me reasonable fees and in advance.

A new mode of giving charity has recently been instituted, by means of the "night-clinics." I cannot understand the necessity for such clinics. Have not these men and women who need medical or surgical aid, time to come to the day clinics? If they have not the time, they must be employed during the day and therefore earning a wage. If a person is earning money, why should he be the recipient of charity? Why should he receive medical charity any more than he should receive articles of clothing or food free? Here is another instance where the medical men especially are to blame, for if they did not volunteer their services, such unreasonable and undeserving charity would not be given. It is interesting to note that in most of the night clinics, the specialty of genito-urinary diseases is practiced, and naturally the physicians who were accustomed to getting a fair income from these patients, have had their income from this source almost entirely cut off. I am sure that the hospitals and dispensaries that conduct night clinics, gain comparatively little financially, as the result of catering to this class, but they do deprive the physicians of their income and also teach young men, who later will become heads of families, to take advantage of a privilege to which they are not entitled. This should not be the purpose of a hospital or dispensary.

The Board of Health of New York City is the best working body we have in this country for the protection of the public health. Through its energetic work, the spread of the various communicable diseases is gradually being checked. Particularly is it doing very commendable work in preventing the spread of tuberculosis. Through its inspectors, the public is protected from adulterated and inferior grades of food. This institution does not, however, limit its efforts to fighting general bad conditions, but it has recently established the practice of sending nurses to the homes of all newborn infants, to inquire about their feeding and general physical conditions. The nurses not only visit the poorer sections of the city, but also go into homes where the families are well able to pay their regular physicians. The nurses actually "butt in." They give orders to the mother and advise her that if anything goes wrong with the baby, she should at once call up the Board of Health and a physician or a nurse will be sent to her immediately. In this way these nurses divert cases to the Health Department. I wonder what form of charity this is? I am sure that the family physicians are able to advise, and do advise their patients when they see fit, so as to avoid unnecessary illness and suffering. Those families that are too poor to have their own physicians, have no doubt already made use of the Lying-In Hospital, whose staff gives them advice. Later, these mothers can be advised by the dispensary physician. Thus you see that the Board of Health is to this extent infringing upon the rights of the private physician.

A number of quotations from the medical journals and from the State Law are now in place as they will show how the abuse of medical charity is regarded and what remedies are provided in the State Law.

In a paper read before the National Conference of Charities in May, 1898, Dr. Wilkes Washburn says, "We as physicians are largely responsible for the increase in pauperism. Statistics from the comptroller's office show that now nearly four times as much money as formerly is spent per capita a year for the care of paupers."

To quote from the *Syracuse Courier*—"The increase in the number of dispensaries has incited thousands of well-to-do persons to fraudulent practices. Citizens who would resent the imputation of being paupers show no hesitation in defrauding the charities by applying for free treatment. Persons well able to pay for medical attendance jostle the really needy and deserving poor in the effort to obtain something for nothing. The free dispensary in New York has become an incubus on the medical profession there, and reform in the methods of relieving the poor through these channels is urgently demanded."

To quote from the Annual Report of State Board of Charities of 1896 to the Legislature of 1897: "It appears from the investigation that the dispensary under proper management is a most important institution among the charities in this State, but to fulfill its proper mission, it should be so arranged and managed that only the really 'sick poor' should be able to secure its benefits. It is found that the managers of dispensaries rarely institute adequate inquiry into the means or ability of patients to pay for the medical services of the physician or for the medicine which they receive."

The following is a short abstract from the *Amer. Charities*, by Amos G. Warner:

"Dr. Savage estimated that in the city of New York there are between 300,000 and 350,000 patients treated gratis at the dispensaries annually, or one in four persons

in the tenement house population. . . . A writer in the *Evening Post* also cited by Dr. Savage puts the estimate at 628,286 from which he deducts 178,057 duplications, leaving a net number of 452,529 distinct individuals receiving dispensary aid during the year.

Wherever a considerable number of dispensary cases are investigated to ascertain whether or not the patients are destitute, a tolerably high abuse-rate is found.

The C. O. S. investigated 1,500 cases selected out of 35,000 applicants. The answer was that $\frac{1}{4}$ were able to pay; another $\frac{1}{4}$ had given wrong addresses (possibly from an aversion to its being known that they applied for dispensary aid, or because they resided out of the city) and the remaining $\frac{1}{2}$ were recommended as worthy of medical charity by reason of poverty. For another dispensary this same society made an investigation of 212 cases, and the returned answer was that 55 were able to pay, 58 were not found at the address given, in 18 cases the information was not conclusive and 81 were unable to pay.

Charity experts usually consider that this free medical service has a very bad effect upon the applicants. The C. O. S. has investigated cases whenever referred to them; but for the most part, hospitals and dispensaries do not want their cases investigated—they are glad to take all that come.

Sir Morrell Mackenzie gave it as his opinion that the outpatient department of a great hospital was the greatest pauperizing agency existing in England."

In 1898 a bill was introduced into the Legislature regulating the administration of Medical Charity. In 1899 this bill became a law.

The substance of the Law is:

(a) To have pass cards issued to patients. Each card to have printed on it a copy of the section of the law declaring what is false representation and by what it is punishable.

(b) To investigate all doubtful cases after having given them their first treatment.

(c) To refuse those who are able to pay.

(d) To have all the dispensaries licensed by the State Board of Charities.

(e) It forbids any charge for medicine or attendance.

The charge of ten cents in most New York dispensaries for medicines is a nominal charge and is not supposed to bear any relation to value of the services rendered or the medicine furnished.

Rule III, Section C of the State Board of Charities reads as follows:

"Every applicant either personally or by the parent or guardian of such applicant, in regard to whose ability to pay for medical or surgical relief, advice, or treatment, medicine or apparatus, the registrar is in doubt shall admit to a first treatment such applicant on signing a card containing the 'Representation' or the statement of the applicant. The registrar shall forthwith cause an investigation of such applicant to determine his ability to pay either personally or by parent or guardian. The result of such investigation shall be filed among the permanent records of the dispensary. Any such doubtful applicant who shall refuse to sign the required 'Representation' or statement shall be refused admission."

You will observe that the above regulation calls for both an investigation of doubtful applicants and the keeping on file the results of such investigation. In the

majority of instances the investigation consists of simply questioning whether or not he or she is able to pay 10 cents. Sometimes the registrar will stop an applicant because he or she happens to be dressed neatly and allow an applicant to pass if she is dressed poorly. The registrar forgets that a great many people who are poor still want to look neat and a great many rich people will take their jewels off and put on their poorest looking clothes in order to give the right impression. In some dispensaries those well able to pay do not even disguise themselves but pass the man at the desk as though they had a perfect right to all they are going to get.

As I understand the law, it requires that an investigation shall be made by a person not the registrar. This person should be one who makes it his business to do such work and nothing else. This will give him experience and efficiency and enable him to see a larger number of cases than if the work was done indiscriminately by volunteers who do not make this their regular occupation.

The work and usefulness of the dispensaries would be largely increased if all the dispensaries would organize themselves into a body and work in conjunction with other charitable organizations. I have no doubt that the C. O. S. would place at their disposal a corps of workers, who would investigate the applicant for medical charity, just as they so ably investigate the cases of applicants for general charity. To my mind, the best remedy for the abuse of medical charity is *home investigation*, for it is the *home* that tells the story nine times out of ten. Many of the patients who attend dispensaries have well furnished homes, occupy orchestra seats in the theatre, indulge in fine table delicacies, and

go out on promenade wearing fine clothes and diamonds.

While home investigation may seem rather difficult and cumbersome, I am certain if this method were instituted and the existence of such a body of investigators made known through the press, that about 50% of the present number of applicants would immediately be frightened away from the dispensaries, thus decreasing at once the number of cases to be investigated. In course of time the percentage of unworthy cases who apply would be very much reduced.

The effect of such investigation upon the public would be their realization that dispensaries are for the poor only and it would tend to make them a little more self-respecting and independent.

To aid in the home investigation, the city should again be divided into districts as formerly. The people living in a certain district should be refused treatment in every dispensary not in their district. By this division patients living in the Bronx, Staten Island or Long Island, would not be treated in Manhattan. The physicians at the dispensaries would have ample time thoroughly to study the cases and do justice to the patients and to themselves. Should home investigation be adopted, the investigators would also be in a position to help the patient to carry out at home, the instructions given by the physician;—for what is the use of telling a mother who is excited and worried about her child what she shall do for it? She forgets all that is told her in her excitement. She cannot have the instructions repeated more than once, as there is no time to explain to so many patients again and again what shall be done.

I have enumerated the various medical

agencies which tend to pauperize the public and rob the physician of his income. Were one-tenth of this effort made to infringe upon the domain of any trade, where the man does not spend years of study, does not burn the midnight oil and afterwards hold himself at the beck and call of his work night and day, were the slightest attempt made to decrease the wages of the laboring man, all the trade unions would rise as one man, and the press would unite in denouncing such private or public institution. Public agitation would be so keen that resignations would soon be called for and reforms made. But when the physician is interfered with, when his income is cut off from so many sources, he is a member of too dignified a profession to protest. The young physician is obliged even at times to live beyond his income and not a helping hand is extended to him by his colleagues who are longer in the profession, and who have already established themselves financially. When they have, with great effort, surmounted their early difficulties of making a livelihood, they forget their struggles and are no longer interested in helping the younger practitioners to improve conditions. The young man, seeing that he must work hard for the dollar, becomes discouraged from pursuing further study and resorts to means which are not ethical, in order that he may make ends meet. It is the duty of the older men in the profession to interest themselves in the younger practitioners and help them organize into a strong body for the material benefit of all physicians.

In conclusion I would recommend that the Eastern Medical Society refer this problem for serious consideration to the Executive Committee, so that steps may be taken to bring this matter before the atten-

tion of the managers of dispensaries, to the end that they cooperate with our society to remedy the existing evil.

I believe that it is the duty of our organization to further not only the scientific interests of the members but also to do all in its power to promote their material welfare.

309 East 10th St.

WHEN SHALL WE OPERATE FOR INTRA-ABDOMINAL HEMOR- RHAGE DUE TO TUBAL PREGNANCY?¹

BY

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O. P. D.

Whenever the impregnated ovum has through some pathological cause been prevented from reaching the uterus and remains in the fallopian tube, its ultimate destruction, with but rare exceptions, becomes a certainty.

The usual ways in which the life of the ovum may be terminated are in the order of their frequency; (*first*) tubal abortion; (*second*) tubal rupture. The former takes place when the tube lumen can no longer accommodate the growing product of conception, and which is therefore forced out by the hemorrhage within the tube and by the peristaltic movements of the tube wall, through the fimbriated end into the peritoneal cavity. The latter occurs when the fimbriated end is occluded by preceding or recent inflammatory changes and as a result thereof the gradually enlarging ovum not only attenuates the tube wall, which does not participate in the hypertrophic changes of pregnancy, but also burrows its chorionic

¹Read before Eastern Medical Society of City of New York.

villi into it until it finally breaks through and escapes from its narrow confines.

Were these phenomena unaccompanied by disastrous results to the host harboring the ectopic, we as clinicians, would be but little interested in this question. But since the ovum in its process of annihilation very frequently leaves in its wake numerous victims of disease and death, this subject assumes a magnitude of vast proportions and demands our full and earnest consideration.

Although this paper will be limited to the discussion of the treatment of tubal rupture and tubal abortion, it will not be amiss at this juncture to say a few words regarding our attitude towards unruptured ectopic. Most authorities agree that to diagnose and operate upon tubal pregnancy before rupture or abortion has taken place constitutes ideal gynecology; and I know of no better simile with which to compare a woman carrying a tubal pregnancy than to a dormant volcano, which may at any moment burst forth in its ghastly splendor and pour out the devastating lava.

Concerning the subject *sub-judice* the opinion of the profession has of late been divided. While the great majority of leading gynecologists favor immediate operation, a small minority of earnest workers and investigators prefer the plan of waiting. Is this new conservative movement that tends to stay the hand of the surgeon from operating at once upon all cases suffering from internal hemorrhage due to tubal rupture or abortion, real or apparent?

Hunter Robb is the most ardent advocate of the policy of waiting and fortifies his assertion by experiments upon dogs. He subjected these animals to operations involving the cutting of the uterine or the ovarian artery or both, then closed the

abdominal cavity and left them to their fate. The results obtained from these experiments showed that none of these animals died from the hemorrhage directly. He therefore reasons by analogy and says that we will serve our patients best by not operating immediately but soon after the hemorrhage has ceased or even later. Robb also quotes statistics to prove that 95% of the cases of tubal rupture or abortion will stand the immediate effects of the hemorrhage very well.

We who recommend immediate operation have learned this truth long ago for all cases that come upon the operating table days and weeks after the rupture has taken place bear witness to this fact. But what are the advantages of waiting?

Our conservative confreres claim that by operating before the hemorrhage has ceased or before the shock is over we are adding shock to shock and intensify the already existing depression. Two cases are quoted by Robb to prove this contention which I will briefly mention.

(CASE I). E. H., ruptured ectopic, diagnosis ascertained by introducing an aspirating needle through the abdominal wall in the median line midway between the umbilicus and symphysis pubis and dark blood withdrawn. Operated while patient was in shock. As soon as the peritoneal cavity was opened a stream of dark fluid blood about one inch in diameter spouted seven inches from the incision. After the intra-abdominal pressure was relieved the pulse began to flutter and the respiration to grow shallow. All the fluid blood was washed out with six litres of salt solution. The ruptured tube and ovary were removed. The patient died soon after the peritoneal cavity was closed. Operation lasted fifteen minutes.

(CASE II). H. B. Operated upon after five days of observation when patient was out of shock and had no pain. As soon as she was placed upon the operating table

dominal section. As soon as the cul-de-sac was opened several ounces of fluid blood escaped into the vagina. I then washed out the cul-de-sac with saline solution,



Internal iliac artery of man; shows the internalelastic membrane only.

the pulse increased considerably in rate. She was given an infusion of saline and the posterior vaginal fornix incised as I felt sure that she could not endure an ab-

packed with gauze. While carrying out this procedure the pulse became imperceptible and respiration labored. She died one hour after the operation.

These two cases died from a surgical interference and therapy that cannot stand the light of modern technic and treatment.

What are the causes of shock in these cases both before and after operation? The primary shock is caused by the irritation and pressure of the escaping blood upon the terminal filaments of the hypogastric and other abdominal plexuses in addition to the loss of blood from the general circulation. The secondary shock, that is, the one caused by our operative interference especially in those cases of profuse hemorrhage is brought about by a sudden release of the extra-vascular pressure of the abdominal blood vessels as soon as the peritoneum is opened and the free blood is allowed to escape. This sudden vaso dilatation causes an influx of almost all of the remaining blood from the rest of the body into the abdominal vessels, thus causing the patient, figuratively speaking, to bleed into herself.

What are the most effective means at our command to combat these two forms of shock? For the primary form to operate early and prevent irritation and pressure upon the sympathetic and splanchnic plexuses and avoid the risks of fatal hemorrhage. For the secondary form to establish an equilibrium between the extra and the intra-vascular pressure of the abdominal blood vessels by starting the intra-venous infusion of saline as soon as the peritoneum is opened.

Let us now revert to Robb's cases and trace their fatal termination. His first case was operated early enough, but no mention is made of an attempt to fill the empty blood vessels by a saline intra-venous infusion. The second case proves the futility of waiting, for, from a careful study of the history it becomes evident that the collapse

which occurred on the fifth day of waiting when the patient was moved to the operating table, was undoubtedly due to a fresh recurrent hemorrhage; a sad, but nevertheless frequent occurrence, in many cases of ruptured ectopic. No attempts were made in this case to stop the bleeding. Douglas's cul-de-sac was simply opened and tamponed, whether this was a proper surgical procedure remains for my hearers to decide.

At the Beth Israel Hospital, especially in the service of Doctor Ladinski, shock and almost exsanguination from tubal rupture or abortion is not considered a contra-indication to immediate operation, and our results prove the propriety of our method. For the last two years sixty cases of extra-uterine pregnancy were operated in our hospital with but one death, a mortality of one and six-tenths per cent. Of these, eight, or 13 3-10% were unruptured, fifty-two, or 86 6-10% were either ruptured or abortions.

Cases operated upon while the patient was in shock, that is, cyanosed, with cold and clammy skin, dyspnoea, pulse very rapid, compressible and at times imperceptible, with a low red blood and haemoglobin index; of this class of cases there were nine, or seventeen and three-tenths per cent. Regarding the case that died, it was one where, due to delay in transportation to the hospital and to the extremely low condition of the patient on admission, the surgeon on duty was reluctant to operate at once and waited for several hours and then operated, she did not, however, respond to any form of stimulation, either before or after the operation, and died on the following day. In a series of 110 cases of extra-uterine pregnancy operated upon by Ladinski, 25% of which were emergency cases, there oc-

curred but one death, a mortality of eight-tenths of one per cent. These clinical facts are the most weighty arguments that could be advanced in favor of immediate operation.

Williams in the chapter on Ectopic in Kelley & Noble's *Gynecology*, page 169, says: "In every case in which collapse is marked and the patient presents a pallid appearance and sub-normal temperature immediate laparotomy is indicated, unless her condition is so desperate that death appears imminent, and even under such circumstances recovery sometimes follows prompt operation."

Armed as we are today with the most thorough asepsis and perfected technic, it is sheer negligence or want of confidence on the part of the surgeon to sit passively at the bed-side of the bleeding woman and watch how her life blood is oozing away and her vital forces are being sapped and to rely upon cruel nature to stop the hemorrhage.

The followers of the waiting policy also claim that we seldom find an actual bleeding vessel on opening the abdomen, and that in most cases by the time the surgeon arrives the active bleeding has ceased, and the patient is in a condition of shock. "If a hemorrhage is not going on, what is accomplished by the operation, aside from removing the blood and ruptured sac from the abdomen, and what possible harm would these structures do if they were left in the abdominal cavity for a few days more or less?" Simpson and Stillwagen therefore advise to wait, not only a few days but several weeks, before attempting to carry out an operation.

The above advice seems to me to be erroneous, unsurgical and clinically incorrect. For how many of us are able to

always make a positive differential diagnosis between internal hemorrhage and shock? And if the hemorrhage has ceased, what guarantee do we have that it will not start anew, as it frequently happens? Granting further that no fresh hemorrhage will occur, what about the irritation of the peritoneum by the extinct products of conception and the blood clots, which call forth a re-active inflammation with the formation of adhesions, and at times infections of the clots by the bacillus colicommunis with resulting pus formations? Every surgeon of experience is aware of the operative difficulties cases of old intra-peritoneal hemorrhage offer, of the tardy, prolonged and at times complicated convalescence these patients undergo, and that their future well-being is not always a positive fact. During the summer service of this year at the Beth Israel Hospital I operated upon two cases of this type.

CASE I. S. D., age 31, married 12 years, four children, no miscarriages, last child five years ago, operated March 6, 1908, 3 months after the tubal abortion occurred. On opening the peritoneal cavity the right tube was very much thickened, turned upon itself with its dilated fimbriated end pointing downwards and inwards towards Douglas' pouch. The old blood occupied the entire posterior half of the pelvis and was shut off from the general peritoneal cavity by a partition formed by the omentum, cæcum, and part of the small intestine. These viscera were bound to each other and to the uterine adnexa by dense adhesions, which had to be separated by blunt and sharp dissection. The convalescence in this case was very slow and tedious and was complicated by a phlebitis of the right femoral vein. She remained in the hospital eight weeks and then was discharged cured.

CASE II. A. S. Married 13 years; two children; no miscarriages, last child eleven years ago. Menstrual history negative; last menstruation 12 weeks ago. Was operated September 1, 1908, four weeks after rupture. On opening the abdomen the gestation sac was entirely closed off from the general peritoneal cavity by dense adhesions that had formed between the right adnexa and the right uterine cornu on one side, and the omentum, small intestine and cæcum on the other. While attempting to separate these adhesions I broke into the sac and found a foetus correspond-

ing to the beginning of the fourth month of pregnancy. This patient made a somewhat speedier recovery than the first, but like the former case the first few days after the operation were quite stormy. She was discharged cured on the 22nd day post operationem.

The two cases just quoted impress forcibly upon our minds the fallacy and danger of waiting. While they did not die from the hemorrhage, yet they fall into the category of those unfortunate patients who follow us in our offices and clinics for months and months after the operation, complaining of dragging, gnawing and tearing abdominal pains, these pains being due to the formation of new adhesions at the site where we have broken up the old ones. Nay, still more, some of these sufferers also run the risk of having to submit to a secondary life-threatening operation, such as ileus, volvulus, etc. None of these complications, however, are met with when we operate early. Many histories can be quoted to substantiate the truth enunciated by Ladinski in his monograph on Ectopic. "That it is not always the amount of blood lost that will seal the fate of our patients, but the length of time the bleeding has been allowed to go on, and that patients with profuse hemorrhage but operated on immediately, do far better than those who have lost comparatively little blood but were operated late."

Waiting will therefore increase, if not always the mortality, surely the morbidity of our patients.

Furthermore, are the five per cent. that die from the hemorrhage directly not a number big enough to favor immediate operation? We have no criteria by which we may be guided and be able to foretell with scientific precision in which case the hemorrhage will stop of itself and in which it will not. Robb tells us to watch the haemoglobin percentage, and as soon as it

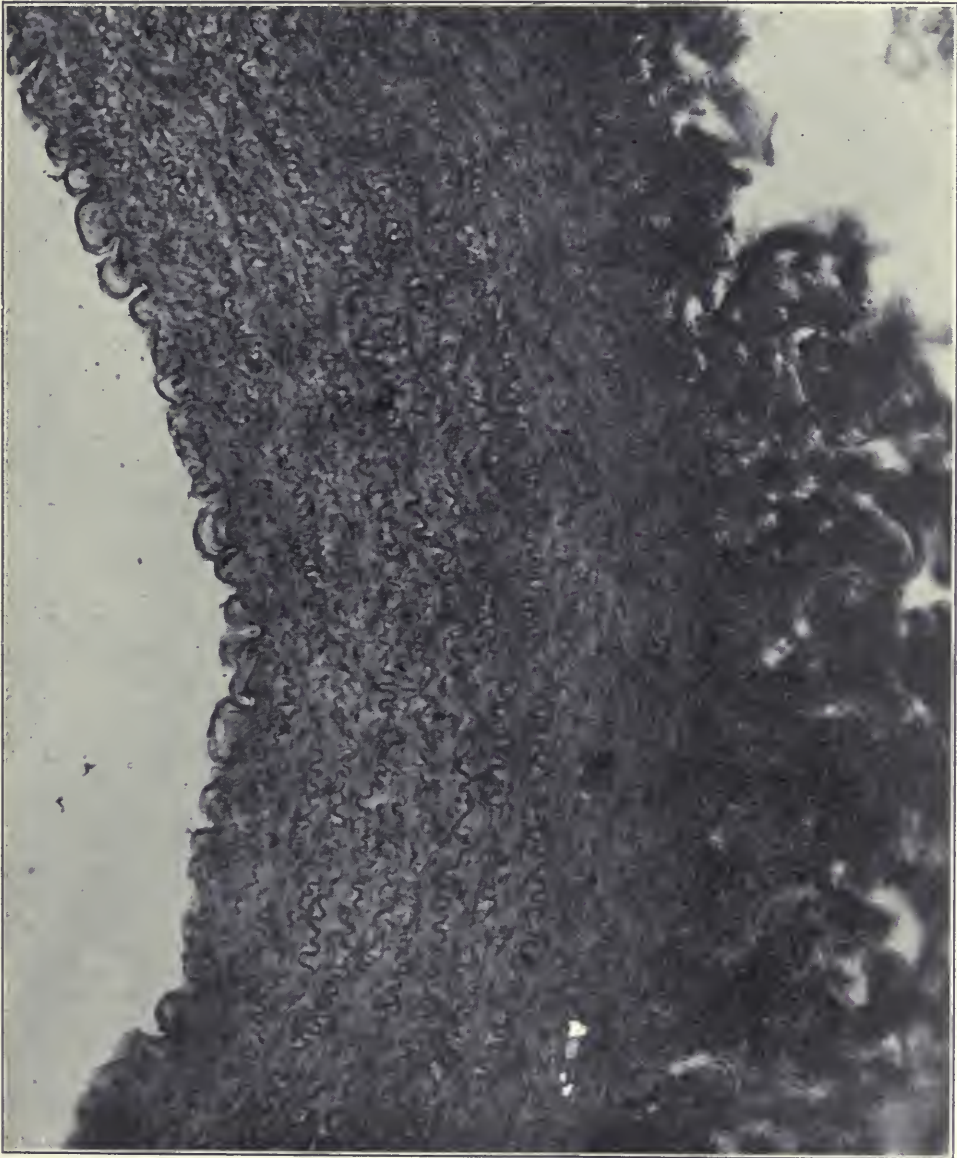
stops falling or remains stationary it will serve as an index that clotting has taken place, and that we may then proceed to operate or wait. Supposing that we have watched our patient from a half to one hour, the usual time consumed in carrying out this experiment, and the haemoglobin has kept on falling; have not these precious moments sacrificed upon the altar of scientific experimentation helped to tip the scales of our patient's life in the wrong direction? The haemoglobin index is also a very misleading rule by which to be governed. For the results of other investigators and some of my own observations prove that the haemoglobin percentage may remain stationary while the bleeding is still going on, or it may keep on falling after it has ceased. Case No. 6 of the series that form the basis of this paper showed a gradual fall of the haemoglobin for two days after the patient was out of shock and the bleeding had ceased, so that on the day following the operation the red blood cells numbered only 1,500,000, and the haemoglobin, 17%. A much lower index than on the day preceding the operation.

In conclusion I desire to state that in our eagerness and enthusiasm for scientific medicine we at times lose sight of the equally important branch, clinical medicine, and we forget that the results obtained in vitro or in animal experimentation cannot always be reproduced in or applied to the human being.

The dog can withstand hemorrhage and shock far better than ourselves for the following two reasons: (First), In the dog the membrana elastica externa, and the membrana elastica interna are present in all arteries; a very important factor in causing retraction of a severed arterial wall; while we present this structure in the

medium sized vessels only, and even there to a limited extent. (Second), Standing upon a very low scale in animal evolution as compared to man the dog's nervous sys-

In view of the above mentioned clinical and anatomical data we have no right to supplement well established clinical facts by problematical theories. Let us en-



Carotid artery of dog; shows the membrana elastica interna and the membrana elastica externa well developed, also in addition an abundance of elastic tissue in the entire media.

tem is less delicate and subtle than the human; shock will therefore affect him far less than it will us.

courage scientific research and experimentation by all means, but not at the expense of clinical truths which were bought at a great

sacrifice of medical effort and human life. The days of electrocuting or poisoning the gravid tube in order to prevent the growth of the ovum and its subsequent rupture, are over. The expectant treatment of ruptured cases is very often fraught with danger and at best can only be applied and adopted to the classes but not to the masses. The clear light of true surgery dawned upon this field in 1883, when Tait performed the first laparotomy for ruptured ectopic; and the results obtained since then make it imperative upon us to keep that light forever bright and undimmed, and for the sake of suffering womanhood it behooves us to advocate that all cases of internal hemorrhage due to ruptured tubal pregnancy or abortion must and should be operated upon immediately, quickly and thoroughly.

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DISCUSSION.

Dr. Brooks H. Wells, in opening the discussion, said: That a woman with an ectopic pregnancy was in serious danger—danger so great that the highest duty of her physician was to keep always the possibility of its occurrence in mind, and so be ready to recognize the first signs of her danger.

That it was ideal to make the diagnosis and remove the cause before rupture had occurred. That it was good surgery to operate in all cases as soon as proper environment and skill could be secured, there being only one possible exception to this: when the patient was in desperate collapse from sudden hemorrhage. This question never would be settled by academic discussion. It was one that always would be largely influenced by the personal equation of the surgeon in charge; by the factors of his individual experience, judgment and skill. To say that these patients would not

die from hemorrhage, as certain recent papers claimed, seemed, in the face of easily obtained evidence that they did, as almost an inexcusable statement. He had twice seen a woman with ruptured ectopic pregnancy allowed to die from hemorrhage because the surgeons in charge would not operate until reaction had occurred, and he knew with certainty of another instance where the same end had followed the same waiting. It thus became impossible for him to believe that women with ruptured ectopic pregnancy might not die, even though others had not seen them die, or had not lost cases by waiting, or because bitches with cut pelvic arteries recovered.

As to his own inclination to operate, Dr. Wells said that it was strengthened by the fact that, out of a large number of ectopic cases, he had operated on eight during extreme collapse, and they, as well as all the others, had recovered. His own rule, in cases in dangerous collapse, was to operate as soon as ready, *unless some improvement was shown during the time of waiting for necessary preparation*; to keep the patient warm on the table; to use light ether oxygen anaesthesia; to maintain a moderate Trendelenburg position; to get in quickly; to tie off the tube expense; to scoop out only clots easily reached; to close the abdomen; to give hot water by rectum, and to expect the patient to get well.

The benefits of a long delay before operation—delay of from one to several weeks, so that the patient's condition might improve—had been strongly urged by some recent papers. In the long delayed cases, not alone the primary mortality was to be considered, but also the increased morbidity following long delay. Dr. Wells' experience was that the cases that had caused the greatest anxiety had been delayed operations with sepsis, not due to operation, but to serious intrapelvic conditions found at operation. Operation done before rupture or before serious bleeding had occurred was not, ordinarily, difficult for anyone skilled in this class of surgery, and should be followed by almost no mortality. Operation delayed for several weeks meant complications, with added danger from adhesions, and often pus and sepsis from the ruptured tube.

Dr. Wells did not place undue reliance on the strictly mathematical or statistical factors of an argument on a similar question; but said that as it must be admitted that about 95 per cent. of cases of ectopic pregnancy with bleeding would not die immediately from hemorrhage, we might hold that when an operator could show a mortality of only two or three per cent. in his general abdominal pelvic operations, he could be safely trusted to use proper care and judgment, and to operate on a ruptured ectopic at any time he might think wise. If, on the other hand, his mortality showed up to more than five per cent., it seemed equally evident in the long run that he would gain nothing by immediate operation.

Dr. Wells closed by saying that the argument was brought back again to the personal equation of the surgeon in charge.

Dr. Ladinski said: That it was needless for him to say that he agreed with the statements made by the reader of the paper, and with what had been said in discussion by Dr. Wells. The limited time would not permit him to go into details; besides, it would simply be a matter of reiterating what had already been said that evening, and what he had said on different occasions heretofore. As yet he had had no reason to change the views he had held during the past several years—namely, that every case of extrauterine pregnancy should be operated on as soon as the diagnosis was established. There was nothing to be gained by waiting in unruptured cases, and it was his opinion that much was lost by waiting in ruptured cases. He had never regarded shock as a contra-indication for operation, no matter how profound it might be, and that the best possible view of the correctness of this was the fact which had been referred to by the reader—that in 110 cases operated on by him (Dr. Ladinski) and reported in January of the present year, at least 25 per cent. of which number had been tragic cases, there had been only one death.

He said that as a matter of fact, when he had first begun to operate for this condition, fifteen years ago, a large majority of the cases were in profound shock at operation, owing to the fact that the condition was not as readily recognized then. As time advanced the tragic cases appeared less often, and that at the present time he saw them very rarely indeed, as it was now the rule for the attending physician to make the diagnosis early in the disease, the consultant only being called in to confirm it.

He was of the firm belief that the added shock of the operation is so insignificant that it should not be taken into consideration at all. To his mind shock and hemorrhage were synonymous, and he considered the so-called shock as really the result of the hemorrhage, and his invariable rule was to check the hemorrhage at once and thereby relieve the shock.

As the best demonstration of how little shock was produced by an abdominal section for extrauterine pregnancy, Dr. Ladinski cited a case on which he had operated a few weeks ago at Beth Israel Hospital. The patient, because of a former operation for goitre, could not take anaesthesia on account of a laryngeal stenosis. He decided to operate under local cocaine anaesthesia, after giving a hypodermic injection of one-quarter of a grain of morphine. The abdominal section revealed a tubal abortion, with hemorrhage into the peritoneal cavity, and adhesion of gravid tube to the intestines. The tube was then ligated, the blood clot removed, the adhesions between the intestines and tubes separated, and the abdominal wall closed. All this was done without a murmur of complaint from the patient. He could safely say that very few cases of tubal pregnancy would require more manipulation at operation than was necessary in this case. The effect the operation produced on the patient demonstrated beyond a doubt what he had

always maintained—that the shock induced by an abdominal section for extrauterine pregnancy was absolutely *nil*.

Regarding anaesthesia in patients of this class, all operators would admit that the pulse of the tragic cases invariably improved as soon as the anaesthesia was established. Experience had taught him, he said, and he was glad to refer to the matter that evening, that infusion in the tragic cases was one of the most valuable measures at the command of the surgeon, and he would advise its use immediately before, during, and after operation as might be found necessary, and he attributed the invariable success in these cases in a great measure to its use. He could not agree with those who were advocating the employment of direct transfusion; he could see no advantage over infusion in cases of internal hemorrhage, and, besides, the former was considerably more difficult of performance, was attended by costly delay, and possibly by dangers as yet unknown. He wished to emphasize the fact that not only did the mortality results, as based on his own statistics, absolutely justify immediate operation in all cases, but the morbidity results also spoke very strongly in favor of immediate operation, for in the entire list that he reported there was not an exception to the general anatomical cures. He predicted the same results by all operators, provided operations were done at once and the patients not left to morphine and chance, very poor expedients indeed in these days of advanced surgery.

He said that according to Dr. Robb, the dogs of Cleveland survive an internal hemorrhage from the ovarian arteries, while it was admitted that few women die after operation for hemorrhage due to tubal pregnancy. In New York the conditions were somewhat changed, according to his experience; though he had seen but one death after operation for tubal pregnancy in women in over 100 cases operated on, he had personally witnessed two deaths in bitches from hemorrhage of the ovarian arteries.

Dr. A. J. Rongy said that to his mind, ruptured ectopic pregnancy occupied the same position to-day as acute appendicitis did ten or twelve years ago; that at that time it was a question whether appendicitis was a medical or a surgical disease, until, finally, it was decided that it was a surgical condition, and every diagnosis for the time being meant immediate surgical interference. Later on a reaction took place, and a few in the profession began to realize that to operate on every case of acute appendicitis did not mean to save the patient, and the interval operation took hold of the profession, when every case of acute appendicitis was not operated upon, but a surgeon waited until the acute symptoms subsided and the other physiological functions in the body became practically normal, thinking that that was the time when a person could withstand an operation best. He said that finally, after much discussion, acute appendicitis was left to the individual experience of the surgeon, and so it was now with ectopic pregnancy;

twenty-five years ago when Lawson Tait enumerated to the medical profession that ectopic pregnancy was a surgical condition and therefore to be operated upon immediately, no sooner was a diagnosis established by every gynecologist than the patient was immediately operated upon. But a few men refused to work surgically by a general dictum, and from personal experience found that the mortality and morbidity following operation was less if the patient was allowed to react from primary shock which she went into when rupture took place. Dr. Rongy believed that in this country Dr. Ralph Waldo of New York was the first to delay operation in almost all of the cases of ruptured ectopic pregnancy, and three years ago in a paper printed in the *International Journal of Surgery*, Dr. Waldo said "that he did not operate on these cases during profound shock, and never had occasion to regret it." Since that time surgeons here and abroad have rather favored the deferred operation in this condition. In the Lebanon Hospital, in the last fifty-eight cases that were operated upon for ruptured ectopic pregnancy, four were operated on during shock and two of these died, while all the other cases where operation had been delayed, recovered. Personally, Dr. Rongy believed that those who advocated immediate operation in these cases were not true to themselves, for if the history of a ruptured ectopic pregnancy were gone into, we would find that the following took place: A woman is attending to her household duties, or probably on a car, or at some shop. She is suddenly taken with cramping pain in one side, collapses, goes into shock and becomes pulseless. The family physician is summoned; he finds his patient, in the majority of instances, in complete shock and pulseless. He administers emergency treatment, makes arrangements for consultation and an ambulance to place the patient where she can properly be taken care of, and when this patient reaches the hospital it is found that whereas she had been pulseless and in complete collapse, reaction has now set in; the pulse is slow, thready and wiry, but still giving a clue to show that the general condition has improved. Dr. Rongy asks whether it is not logical to conclude that if reaction has begun, it will continue—that the general condition of the patient will progressively improve; therefore, operate on the patient during the stage when the physiological processes are as nearly normal as it is possible to have them and do away with the emergency surgery usually done in these cases.

Dr. Rongy thought that so long as the blood index would not correspond to the general clinical appearance of the patient—that is, so long as patients showed a good hemoglobin index and not a greatly diminished red blood count, though still in extreme shock—and not being able to differentiate between shock due to intra-abdominal hemorrhage and shock due to general peritoneal depression or irritation, so long would we not be justified in operating on such cases immediately.

Dr. Sturmdorf said that his conviction, based upon a personal experience in forty-three cases and a critical study of the controverted factors, would prompt him to answer, *operate as quickly as the patient and the surroundings permit*. He gave as his reasons that he had seen and heard of patients who lost their lives by delay, while he had been so fortunate as not to lose a single operative case to the present time. He had encountered late cases of tubal abortion and haematocele that might possibly have recovered without operative intervention, had they been fortunate enough to escape late infections and other secondary pathological changes which brought them to the operating table. He had never felt convinced, he said, that he could differentiate, with the certainty essential to the patient's immediate and remote safety, between the early stages of tubal abortion which result in an innocuous haematocele, and impending tubal rupture, which eventuates in calamity. While he applauded the candor, the frank honesty and courage that prompted the advocates of this pseudo-conservative propaganda to expose such a mortality index in their operative work, he deplored their results and refuted their deductions based upon such results. He said we must not let our sentiment divert our logic; the question at issue involved precious lives, and he wished to state, in all sincerity, that were he to realize such a mortality as the above brought to light, he would not operate early, late, or at all, but would insist upon someone operating, and that promptly.

While the time limit set for the discussion precluded all elaborate analyses, the reader of the paper had covered the ground so thoroughly that Dr. Sturmdorf said he could limit his discussion to a few salient points. It was claimed that *not abdominal hemorrhage* as such, but *operative shock* added to the shock incidental to the tubal rupture was productive of the mortality. Three factors were brought forward in support of this contention: First, active bleeding from the ruptured vessel was not observed during operation; second, the amount of blood lost was never lethal according to physiological laws; third, pregnant bitches with severed ovarian arteries never bled to death.

Dr. Sturmdorf knew of no operation for shock, and if it were the shock and not the loss of blood that dominated the gravity of these cases, any surgical intervention, immediate, intermediate, or deferred should be contra-indicated, and it would follow as a corollary that instead of asking "when shall we operate," the question naturally would resolve itself into "why should we operate?"

The absence of spurting from the ruptured artery is due to a very natural series of events, physiological and mechanical. To trace this cycle of events: a hemorrhage occurs, severe enough to produce syncope—that means cerebral anemia, which results in diminution in frequency and force of the cardiac systole and prolongation of its diastole. As a consequence

there is a slowed blood current which favors clotting. This is nature's remedy for grave hemorrhage. When the abdomen is opened, it is found that intra-abdominal pressure is increased in proportion to the amount of the extravasation. The incision converts this *hypertension* into *hypotension*, as a result of which the large abdominal veins dilate at the expense of the arterial contents; the uterus or tubes are drawn into the incision and angulated, obstructing the circulation through the ovarian arteries, and yet surprise has been expressed at the absence of spurring.

The amount of blood lost during the first hemorrhage may be, and usually is, insufficient to cause death, but how long is the slowed current maintained by nature?—a short while only—ten to fifteen minutes at the longest. The clotting may be sufficient to occlude the vent for a variable period—sometimes for weeks—then nature in her recuperated strength, or as the result of some physical exertion on the patient's part, repeats the whole cycle, and at last it is found that the pelvis—even the whole abdominal cavity—is filled with clots of fresh blood.

Dogs cannot bleed to death from severance of their ovarian arteries; veterinarians assure us that even the carotid may be severed in a dog without fatal result, owing to the excessive development of the elastic tunic presented by canine blood vessels. Nevertheless, while dogs do not bleed to death from rupture of their arteries, *women do*, as has been witnessed by the fatal results following the accidental slipping of ligatures from tied ovarians after operations for other pelvic conditions. The studies of Crile and others show conclusively that an absolute differentiation between shock and concealed hemorrhage is clinically impossible. Nor can a haemoglobin estimation, as recently advocated, aid in this differentiation, for it must be remembered that the immediate result of hemorrhage on the blood is quantitative and not qualitative; consequently, the last drops or the first drops must show the same haemoglobic content. Our blood is bled as a whole, and not as haemoglobin only.

Every active therapeutic effort should be directed against the etiologic factor.

The etiologic factor is the ectopic and should be removed.

The contributory and fatal factor is the ruptured vessel—it should be sealed by the only certain means known—prompt ligation.

Dr. Sturmdorf closed by advising that dogs and theories be left aside and operation be prompt in ectopic gestation.

Dr. Rabinovitz, in closing, said that he had only mentioned dogs for purposes of analogy.

Gastric Ulcer.—After hemorrhage,—Roberts (*Southern Practitioner*)—or even in cases in which a diagnosis has been made without this more or less startling symptom, I value opium most highly, giving preference to the alkaloid morphia, combined with atropia hypodermatically.

IS FOOD CONTAINING SULPHITES INJURIOUS TO HEALTH? *

BY

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PART II.

Nearly two years ago, I presented a paper before the Medical Association of the greater City of New York entitled "Is Food Containing Sulphites Injurious to Health?" § The paper was largely a critical review of the opinions of experts given in their testimony at a trial in Philadelphia in 1904. My motive in thus bringing these opinions to the attention of a professional audience and into medical literature was both to inform the medical public of the opinions of medical experts in this subject and to present the opinions for the critical consideration of the profession. This was done with the belief that in general such procedures tend to redound to the advantage both of the medical profession and of expert medical testimony.

At the time of my former paper, I was both surprised and pleased, on entering the meeting, to find that Dr. Wiley was present to discuss the subject, in response, as I understand, to the invitation of the President of the Association. In addition to the critical review of the subject along the lines I have mentioned, the paper suggested directions for investigations that I believed could with advantage be followed in the further study of the problem.

In the discussion, Dr. Wiley announced that the question had been the subject of ex-

*The following communication, under the title "The Influence on Health of Preservatives in Food" was presented at the Symposium on Preservatives in Food, October 16, 1908, before the New York Section of the Society of Chemical Industry.

§See this Journal, April, 1908, p. 160. Part I.

tensive investigation in the Department of Agriculture and that through the courtesy of the Secretary of the Department he was then able to make public for the first time the results, which would supply the investigations of which I had indicated the need. Among the conclusions reached two were of sufficient importance so that during my closing of the discussion Dr. Wiley requested from the audience that I give them consideration. They were that sulphites in food are injurious (1) because of their action upon the kidneys as indicated by a marked tendency to the production of albuminuria; and (2) because of a marked tendency to reduce the number of corpuscles, both red and white in the blood and also to diminish the intensity of the color, the effect amounting even to a 20% reduction in the quality of the blood. My reply was that if these effects were produced, it showed without any question that sulphites are injurious and justified his conclusions in the matter but that before accepting them I desired to see the data upon which the conclusions were based. These data were subsequently published as Part III of Bulletin 84 of the Bureau of Chemistry, Department of Agriculture. The present occasion furnishes the first opportunity that I have had for the further consideration of this important subject.

In my former paper I considered, among other things, the view attributing an injurious action to sulphites for the reason claimed that if they gained access to the blood they would deprive the blood of oxygen. I pointed out that such a use of oxygen would not be disadvantageous to the body since by this action body-heat would be produced the formation of which is one of the most important uses of the oxygen of the blood. Instead then, of de-

priving the body of oxygen, the oxidation of sulphites would use the oxygen in the way for which it is intended, a use that is perfectly physiological and hence to the advantage of the body. In presenting the results of the Government investigations, Dr. Wiley interrupted his reading of the conclusion that sulphites are injurious because they deprive the blood of oxygen and stated that I had seemingly answered that argument. I note that in the publication of the results in the Government Bulletin this conclusion is omitted, so I need not further discuss this aspect of the matter at the present time.

Considering next the statement that there is a marked tendency to the production of albuminuria, I find the following facts: Observations on this point were made in Series VII in which 12 men were subjects. I quote page 824, "the presence of albumin was qualitatively determined only a limited number of times;" page 825, "These limited data are not sufficiently decisive to establish any general effect as produced by the preservative, and further studies were made of this point in the special series. * * * * In the cases of Nos. 1, 3, 11, and 12 of series VII, however, a slight tendency is shown * * * * to develop albumin in the urine when it is not present."

In the special series referred to there is a record of observations on three subjects all with albuminuria before the administration of preservative. The result recorded is that the albuminuria persisted in two cases (Nos. 4, p. 1024 and 10, p. 1025) while in the other case (No. 3, p. 1023) during the twenty days of the administration of the preservative the albumin disappeared for the middle ten days and in the last five days of the after period was not

found in the two tests made. Evidently, if any conclusion is to be reached from these data it is that the preservative tended to correct rather than produce the albuminuria. Regarding the results of this special series, the conclusion continues (p. 825) "the same contradictory evidence is furnished by the data obtained for five men, which precludes the drawing of any positive conclusion in regard to the production of albumin in the urine by this preservative."

These are the facts upon which is based the statement in the general conclusion, p. 1040 that there is a marked tendency to the production of albuminuria. That the facts do not support this statement is evidenced by the statement of the report already quoted (page 825) to the effect that the data preclude the drawing of any conclusion in the matter. To Dr. Wiley's question of two years ago of how I explain the production of an albuminuria by sulphites in food, I reply in the spirit of Bulletin 84, p. 825: The evidence furnished by the data preclude the drawing of any positive conclusion that there is a production of albumin in the urine by this preservative.

As to the impoverishment of the blood by sulphites, let us find the facts. Observations on this point were made in Series VII, 12 subjects, and Series XIII, 5 subjects. In Series VII, the amount of haemoglobin, the coloring matter in the blood, in the fore-period was on an average 97%; in the preservative 95%; and in the after period 95%, remarkably close triplicates. In Series XIII, the average haemoglobin results were in the fore-period 96%, in preservative period 97% and in the after period 97%, again close triplicates. In the first series the slight variation was in

one direction, in the second series in the opposite direction, thereby balancing one another. We look to these facts in vain for the least suggestion of blood impoverishment. To those of us familiar with this class of work there is no evidence at all of such a condition.

As to the red blood corpuscles in Series VII, the averages were: fore-period 5,387,000; preservative period 5,048,000; after-period 5,380,000 in a cu. mm. In the Series XIII, the averages were: fore-5,130,000; preservative period 4,978,000; after-period 5,075,000. It is thus seen that in each series during the preservative period the red corpuscles were in round numbers 5,000,000 per cu. mm. and that in the fore and after periods they were appreciably though not materially higher. Since 5,000,000 per cu. mm. is regarded as normal (see note, p. 881) it is difficult to understand how the conclusion is justified that the blood was in any way impoverished by the preservative. It would rather seem, if any conclusion is indicated, that the number of red corpuscles was abnormally high during the control period and that it was rendered normal by the administration of the sulphites. However, it is much more reasonable to believe that the results are well within the limits of physiological variation and that they have no pathological significance whatever. I must disagree absolutely with Dr. Wiley that the facts recorded in Bulletin 84, Part III give any evidence at all of blood impoverishment.

The remaining conclusions reached have reference to the production of clinical symptoms and of certain variations of the metabolic processes. The variations in question are an increase in the preservative period of sulphur and phosphorus excretion.

The sulphur increase was eliminated by the kidneys and so was attributed to increased katabolism; the phosphorus with the intestinal contents and was accordingly attributed to diminished assimilation.

In regard to the sulphur elimination 12 subjects were studied in Series VII. Of these, cases 5 and 7 cannot be considered, as the observations were incomplete. Cases 6, 9, and 12 show a change in the preservative period without even an approximate return in the after period to the fore-period standard. So far as these cases show anything, then, it is that there was not a condition of sulphur equilibrium in the fore-period and that there was a tendency to establish this condition in the later periods. The conclusion that the preservative produced a change that extended into the after period is not justified. Of the seven cases remaining, case 4 shows practically no change in the three periods and may be interpreted as negative. Cases 2 and 8 likewise show comparatively little change and as even this is in opposite directions in the two cases the evidence afforded by them may be considered to balance one another. This leaves cases 1 and 3, each showing a small increased elimination of sulphur in the preservative period and cases 10 and 11, each showing a small diminished elimination of sulphur in the preservative period.

There is, then, no predominating influence of the preservative on sulphur metabolism, the variation of sulphur elimination being in opposite directions in an equal number of the cases suitable for consideration and being practically negative in the remaining cases that we may with fairness consider. We are not justified in merely adding the figures of all cases and balancing the sum as was done in reaching

the conclusion in the Bulletin. We must first give proper weight to the individual cases. This method puts an entirely different interpretation on the findings in Bulletin 84 and indicates that the preservative was without any constant effect on sulphur katabolism.

Regarding the increased elimination of phosphorus with the bowel contents in the preservative period, the figures obtained seem to clearly justify that conclusion in seven cases, while the figures are negative or uncertain in three cases and indicate a diminution instead of an increase in two cases. As a whole, then, the tendency is in the direction indicated in the conclusion reached in the Bulletin. There is not the least evidence, however, that it is organic phosphorus as stated. It is also unknown, and even unlikely, that it is due to diminished assimilation, since it is well known that the bowel is an avenue for phosphorus excretion from the blood, at least one factor that influences the quantity eliminated by this channel being the relative quantities of calcium and magnesium eliminated, an increase of calcium tending to direct the phosphates into the bowel and an increase of magnesium favoring elimination by the kidneys.

The factors determining the condition of phosphorus elimination observed have not been the subject of investigation so that at present we do not know the cause of the increase, even whether it is due to increased katabolism or diminished assimilation, as already stated. We are certainly not justified in concluding that the evidence indicates a marked influence of an unfavorable character on metabolism. A fairer conclusion is that we do not know the significance of the condition observed.

I regard the clinical symptoms mani-

festated by the subjects as the evidence most suggestive of an injurious action. The chief value of such manifestations is in the suggestion they carry for lines of experimental study to determine their cause. It is therefore with keen disappointment that we look for such studies in the elaborate experiments recorded in the Bulletin. If there were gastric disturbance what was its nature, we may properly ask, but we find no efficient study of the gastric function. If there was vertigo, what was its cause, toxic, cerebral congestion, cerebral anaemia or what? We must know the answer to these and other questions before we can justly attribute the given manifestation to any specific acting cause and, if it be concluded that it is due to the preservative administered, before we can determine whether it is due to an inherent quality of the substance or the result of the quantitative relation.

I trust it will not be understood that I am in any way antagonistic to proper methods for the correction of any real vice in the use of preservatives. We are indebted to Dr. Wiley for the impetus given to this reform. The realness of the evils whatever they be, and any actual necessity or advantage that thereby arises for their correction should not prevent us from soberly and honestly considering the results of scientific investigations of the influence on health of these substances.

Eczema.—In the thick, hyperkeratotic, chronic form of eczema, says Sutton, which is most frequently seen on the palms and the anterior surfaces of the wrists, an agent which will loosen and dissolve the outer layers of superfluous epithelium without giving rise to additional inflammatory changes in the corium is needed, and none is better than salicylic acid:

Salicylic acid, 2.0 to 5.0;
Wool-fat, 20.0;
Vaselin, 25.0.

THE QUESTION OF A RELATIONSHIP BETWEEN "SYPHILITIC" LLAMAS, OF THE DEPARTMENT OF PUNO, PERU, AND PRE- COLUMBIAN SYPHILIS IN MAN.

BY

ALBERT S. ASHMEAD, M. D.,

New York.

Since the publication of my article "Origin of Syphilis in Pre-Columbian America," in the *American Journal of Dermatology*, of St. Louis, last summer, detailing an investigation made jointly by Dr. Francisco Grana, of the Department of Health at Lima, Peru, and myself, with negative results following an inoculation of two llamas, with human syphilitic virus, the question has not been left to lie idle. We have been awaiting the arrival at the capitol of Peru of a drove of so-called syphilitic llamas from the Department of Puno. These animals are said by the natives to be really syphilitic. By any mail, I am expecting full advice from Dr. Grana, of the pursuance of the investigation as to whether these animals really have the disease known in the human being as syphilis or whether the disease is one with a semblance to syphilis. It is hoped by us, definitely to determine the question, whether pre-Columbian syphilis in man, arose from inoculation from the female llamas through the herd drivers, on the mountain tops, having unnatural intercourse with those animals, when they lay down with them at night-time to keep themselves warmed, by their wool. In the meantime, the following correspondence has taken place:

"NEW YORK, June 11, 1908.

Dear Dr. Grana:

While waiting for your proffered further information relative to the continued in-

oculations of syphilitic virus (human), upon llamas, other than those two of the breed which you already have reported to me, as resulting negatively, may I take occasion to observe that the herd of llamas, to which those two already inoculated on Sept. 17, 1907, by your assistant, Mr. Richard Palma, under the direction of Dr. Manuel O. Tomayo might have been immune. I have, in my clinic in Tokio, Japan, where I had charge of two thousand licensed prostitutes repeatedly attempted inoculation with syphilitic virus (Hunterian chancre) of harlots who already had syphilis. In these cases no significant ulcer resulted. They were negative in every case, showing that a syphilitic could not have a chancre twice. In this way, I determined the exact nature of many suspicious sores. Chancroids would repeat themselves, chancres never did. Beside this point may I allude to the further fact, that the Japanese race has been saturated with syphilis for thirteen hundred years; the Chinese race since 1124 B. C. A Japanese prostitute whose symptoms may appear very mild, would always inoculate the European with a vicious type of the disease even producing in him the type of epidemic syphilis of the 15th century in Europe. Western Europe knows syphilis only since 1472, as a disease by itself, according to Virchow. But according to the evidence of the *Madeleines* (leper cemeteries of the Middle Ages), as shown by Raymond, of Paris, many syphilitics were buried as lepers. Hence it is supposed that early syphilis in Western Europe, whence Columbus sailed, took on a type like leprosy, very mutilating and hard to control. It is supposed therefore that the Japanese and Chinese races, by their longer generational experiences with the disease

have acquired a great measure of resistance to the germ; Europeans by their lesser generational experience with it, of say 500 or 600 years at most, have not yet obtained the same measure of immunity or resistance as those other races. May it not be then that if this disease in Pre-Columbian America, was originally an animal disease, that there may be breeds of the llamas, whose disease we suspect it to have been, who have by this time acquired really a measure of resistance or immunity just as have special breeds (Chinese and Japanese) of human beings.

I await with some impatience, almost, therefore the result of the further inoculation of human syphilitic virus upon llamas, of that special breed you speak of, as soon to arrive from the Department of Puno, and which you say the natives there, call "syphilitic" llamas. Could you also inoculate upon some Indian (Incan or Aymaran) some virus, taken from one of these llamas from the Department of Puno, who may show the disease supposed by the natives to be animal syphilis, to determine whether it is really our human syphilis or not, and whether the disease whatever it may be, is inoculable upon man, and have it appear in man? For this disease might be inoculable from the animal to man and yet not be inoculable from man to the animal, unless taken at its most virulent stage of evolution in man; that is, as it was originally, say in the 15th century in Western Europe, or in the seventh century in Japan.

Writers of those periods, in both geographical situations, claim that the disease was veritably epidemic, then, and was quickly followed by a spread of leprosy. In Japan it is true, for I have translated several Japanese works on the subject, and know it to be a fact.

Kindly inform me, of every progress as soon as you have further proceeded with the investigation, which we both are so much interested in.

Yours very truly,

ALBERT S. ASHMEAD."

(Translated from the Spanish of Peru.)

"LIMA, PERU, 22 Aug., 1908.

DR. ALBERT S. ASHMEAD,

New York.

Esteemed Doctor:—My delay in replying to your favors is due to my absence from Lima, for some time and lastly to the fact that I have had no data of interest as yet to transmit. Now I have the pleasure to announce to you, that in a short time I shall place at your disposal valuable material for study which I am sure will in your hands prove fruitful of important results. In connection with it a thorough and intelligent student of medicine, Mr. Tello, of the National Library, has just concluded a most interesting treatise on syphilis during the Incan period, which treatise is based as you will see, on a complete bibliography on the subject and numerous anatomical specimens (skulls). A few months ago I wrote to the secretary of the American Legation at Lima, suggesting assistance for sending to you, the collection of skulls gathered by Tello, such as according to our judgment, display exostosis of a syphilitic character. These skulls have been taken from huacas together with pottery, textiles and other objects.

Not receiving any reply we determined upon sending you at our expense, if not the whole collection, at least the most important specimens. Thus the thesis of our friend Tello, who has deemed proper to dedicate it to you, and some skulls of his collection, will soon be in your hands.

There are now coming to this capitol where they will reach in a few days, some of the llamas that are called "syphilitic," and are affected with the disease called syphilis by our aborigines. Tello and I have seen these llamas at their original home, and I believe that the disease from which they suffer is the itch. But I am ready to send you photographs of the animals and partial photographs of the affected parts, pieces of the skin showing the disease, and all the material you may need to make the studies yourself; which we, on our side, shall carry on here in order to determine fully the nature of the disease. At the same time we shall send you every information concerning that kind of llamas and the reasons given by the inhabitants of the zones where they live for calling them thus, etc. I am sorry, not to be able to send you one or more of these llamas. If you think that through your government, or in any other way, the means to ship them could be obtained, I offer to you to place them at your disposal (literal translation). Although I shall in a few days send you what I have indicated above, I hasten to communicate what I hope will be agreeable to you to learn.

Your attentive friend and servant,

FRANCISCO GRANA."

Lumbago Due to Myositis.—While most cases of so-called lumbago are merely the discomfort arising from an over-loaded or irritated tranverse colon, in certain instances the trouble depends upon that stiffness and soreness of the lumbar muscles sometimes called inflammation. Such cases are promptly relieved by intramuscular injection of one milligram (gr. 1-67) of sulphate of atropine and one centigram (gr. 1-6) of morphine, followed by deep massage every six hours, oil of wintergreen being used as a liniment, diluted with equal parts of olive oil if the wintergreen oil is too irritating to the skin.—*Am. Jour. of Clin. Med.*

AN UNUSUAL SEAT OF ANGIO-NEUROTIC OEDEMA.

BY

ALFRED GORDON, M. D.,
Philadelphia, Pa.

In the majority of cases of this angio-neurosis the swellings occur on the face. They may also invade the limbs, abdomen, genitalia and viscera, such as stomach, intestines, pharynx and larynx. On the face they may affect the forehead, eyelids and lips. In the literature at my disposal I have not been able to find a single record of angio-neurotic oedema on the scalp.

Recently a case of this nature came under my observation and in view of its rarity its history should be put on record. An Englishman of 35, single, tailor by occupation free from alcoholic intoxication or specific infection and otherwise free from any organic disease, noticed about two years ago that at times without an apparent cause his hat would not fit his head. In various places on the scalp would appear small swellings which would somewhat itch, but caused no pain. They would last from a few hours to two or three days and then disappear completely without treatment. During a period of two years they appeared and disappeared very frequently: at first almost every two weeks and later about every 5 or 6 weeks.

While the condition did not interfere with his daily work, as there was no pain, he nevertheless felt considerable discomfort in not being able to keep his hat on the head and because of the accompanying stiffness, tension and itching of the head which appeared periodically.

Six months ago during one of the recurrences the patient consulted me. I found on the vertex four isolated and circum-

scribed swellings, whitish in color but with a slight rose tinge. They did not pit on pressure. The skin over these areas was tense and the patient complained of a sensation of numbness and itching there and in the immediate vicinity. Objective sensations (touch, pain and temperature) were normal.

He was told to report in two days. All the swellings disappeared; the scalp appeared perfectly normal; the patient complained only of a slight numbness which also disappeared in three days. Twelve days later the patient came to see me again. I found then exactly identical swellings (three in all) over the occipital region. Their objective and subjective features were the same as on the first observation. Again they disappeared at the end of 48 hours.

Since then the oedemata occurred four times in a number of two or three but always on the vertex or occiput or on both simultaneously. Their duration never exceeded four days. For the last three months there has been no recurrence. An investigation of the patient's mode of living revealed the fact that he practiced masturbation to excess. He was also very nervous and very irritable. He had periodic attacks of a mild depression during which he avoided his friends. In his ideas he was very pessimistic. It is possible that all these factors played a certain rôle in causation of the angio-neurosis. An attempt was therefore made by me to correct as much as possible the deviations from normal life in this individual. Hygienic measurements with hydrotherapy and mental therapeutics had in a large measure, I believe, contributed to the apparent amelioration of the condition.

As to medications, the patient was placed at first on small doses of bromides (gr. x tid) and later on glycerophosphates.

THE DIAGNOSIS AND TREATMENT OF THE TOXEMIAS OF PREGNANCY.¹

BY

W. H. KAHRs, Ph. G., M. D.,

New York City.

Due to the pathological and chemical findings, (and I might be excused for saying the present method of treatment) we group under this heading Pernicious Toxemic Vomiting of Pregnancy, Acute Yellow Atrophy of the Liver and Eclampsia (*Erwing, Stone & Straus*). Williams adds to these Reflex and Neurotic Vomiting, which are excluded for lack of findings; Nephritic Toxemia, which should be classed as Uraemic; and Pre-eclamptic Toxemia, which is practically the prodromal stage of eclampsia.

To prove the above let us review the literature, state the pathology briefly, mention the chemical findings to be looked for, and make some statements concerning their importance.

Pathology. The lesions found on autopsy, (by Schmorl) consist of degeneration and necrosis of the cells of the liver lobules. In pernicious toxemic vomiting and acute yellow atrophy, we find extensive necrosis beginning in the center of the lobule and extending outward, with degenerative kidney changes limited to the secretory apparatus, secondarily. In eclampsia, we find the necrosis beginning at the periphery of the lobule, extending

inward, and associated with fibrinous capillary thrombi; the kidneys show changes varying from a slight cloudy swelling to a severe glomerulo-nephritis².

This is confirmed by Williams, Lubarsch, Prutz, Bar, Guyeisse, Bouffe de Sainte Blaise and others.

We are still in the dark as to the substances and conditions which cause these toxemias, although verified opinions have been advanced. Veit, Hofbauer, Weichardt and others, believe that the toxins are generated in the placenta; Bouchard, in the blood; Zweifel, from the fetus; Albeck and Lohse, in the amniotic fluid; Frommer, Vassele and Zangrognine, disease or deficiency of parathyroids; Nicholson, Lange and Mayo, that if the thyroids do not enlarge during pregnancy, these diseased conditions will develop. For eclampsia we add, possibly pressure due to hydramnion and twins, and Ruth's statement "that damp weather irrespective of temperature, seems to increase the number of cases."

As active treatment depends largely on the analysis of the urine, I think it not amiss to state here the contents to be looked for. They are albumin, casts, urea, acetone, diacetic acid, beta-oxybutyric acid, indican, ammonia nitrogen, undetermined nitrogen, high amido acid, para- or sarcocactic acid and glyoxylic acid³.

¹Read before the Medical Society of the Borough of the Bronx, September 9, 1908.

²The same pathological changes with especially those in the liver will also be found in phosphorus poisoning, chloroform anesthesia, (*Bevan and Fauvill*) ether and other inhalant anesthetics, (*Miller*) alcohol poisoning, mushroom poisoning, (*Quincke*) yellow fever, bile acids in the blood, (*Traube*) surgical sepsis and sapremia (*Wetherill*).

³For methods of analysis, I refer to Folin's articles, *Eine neue Methode zur bestimmung de Harnstoffe in Harne*; *Zeitschrift f. Physiol. Chem.* 1901 xxxii, pg. 504. *Eine einfaches Verfahren zur bestimmung des Ammoniaks in Harne*, *ibid* pg. 515. Reprinted in the *Jour. A. M. A.*, vol. L, pg. 549, and Dr. Buhlig's article, pg. 2135. Also vol. 51, pg. 692; Kjeldahl's Method for Total Nitrogen, Sclossing's Ammonia, and Sahli's Diagnosis. In general practice the total nitrogen may be determined by dividing the urea reading determined by Doremus' Ureometer or the method mentioned by Sahli by two.

Before proceeding I might state that I take it for granted that the urine is examined monthly up to six months and then semi-monthly or oftener if indicated.

The significance of the above components of the urine, will be better understood after reading the statements which follow.

Normally from 4 to 5% of the urinary nitrogen is in the form of ammonia compounds. When this rises to 10% or more, in any of these conditions, there is danger ahead and the uterus should be emptied. (*Williams*).

Any material departure from the normal nitrogen ratio, speaks for either pernicious vomiting or eclampsia (*Ewing and Wolf*). This statement is contradicted by *Ellice McDonald & Stengel*.

The presence of sarcolactic acid and glyoxylic acid in the urine of a pregnant woman points to a hepatic type of toxemia. (*Hofbauer & Zweifel*).

In uncontrollable vomiting of pregnancy, *Hofbauer* believes that *Straus's* levulose test is interesting and a guide when to empty the uterus. The glycosuria after ingestion of 60 grammes of levulose is the limit of expectant treatment, beyond which the interruption of pregnancy must not be deferred¹.

Premonitory Symptoms.—Vomiting in the early months may signify morning sickness; if persistent, pernicious vomiting. In the later months it will not be overlooked. Headache, may or may not be of significance. Epigastric pain is important and of diagnostic importance. Increased secretion of saliva and air hunger are often present. Mental changes especially depression, may be a feature. Edema

of the face and extremities is usually seen, but it is not constant. Albumin may or may not be present.

The above symptoms presenting, we should make a gentle but thorough physical examination, and a careful chemical and microscopical one of the 24 hour urine.

Retinitis Albuminuria Gravidarium, should be looked for, as it is often the first symptom of warning².

Diagnosis.—*Pernicious Toxemic Vomiting*. Vomiting uncontrollable and without effort, often blood streaked, later coffee ground; loss of weight, considerable, which however should not exceed 800 grammes per day or 1-3 the body weight in all (*Charpentier*); pulse weak, ranging from 110 to 140; skin, mouth, and tongue dry; eyes sunken, with disturbed vision; delirium; torpor, soon coma, which may be accompanied by convulsions. Some cases show slight jaundice.

Urine contains acetone, diacetic acid, beta-oxybutric acid, indican, perhaps a trace of albumin, a few casts; ammonia coefficient above 10%, high amido acid and undetermined nitrogen, and the urea nitrogen below normal. Near dissolution the urine is very much decreased in amount, and shows albumin, casts, and blood. (*Williams, Ewing & Wolf, Cragin and Edgar*).

Acute Yellow Atrophy of the Liver. As 60 to 62% of all the cases of this disease occur in pregnant women (*Theirfelder & Quincke*) and at any time, even as early as the 6th to 8th week, (*Beatty & Masson*) it is important that we recognize it very early. To do so, we add to the premonitory symptoms general malaise, icterus, gray stools, decrease in the size

¹Reprint from *Zeitschr. fur Geburtsh. und Gynaekol.*, Jour. A. M. A., vol. L, pg. 571.

²Posey & Hirst, *Arnold Knapp, Jour. A. M. A.*, vol. LI, pg. 865-67.

of the liver easily determined by percussion, increase of pulse and possibly of the temperature; stupor, symptoms of the typhoid state, black vomit, coma and convulsions; the coma lasting from a few hours to a few days.

Urine diminished in amount, is very high colored and contains albumin, all varieties of casts; often large quantities of blood; the total nitrogen may or may not be diminished, ammonia coefficient above 10%, increase of amido acid and undetermined nitrogen, and the urea nitrogen below normal. (*Williams, Cragin & Edgar*) to which Williams adds crystals of leucin and tyrosin: Hofbauer, para- or sarcolactic acid and glyoxylic acid.

Prodromal stage of Eclampsia (or Pre-eclamptic Toxemia of Williams). This condition occurs several times in a hundred pregnancies, two primiparæ against one multipara, with the fatality greater in the multipara; and usually after the fifth month. It should be suspected when a patient complains of aggravated premonitory symptoms, particularly if the urine is diminished in amount, smoky in color, of high specific gravity and contains albumin. Albumin in itself is not significant. In addition we find the pulse tense, blood pressure high, and visual changes varying from slight impairment to amaurosis. The ophthalmoscope may show albuminuric retinitis. In rare instances the patient becomes somnolent, gradually passes into coma and dies. In others true eclampsia supervenes.

The urine is greatly diminished in amount falling as low as 200 to 300 c. c. in 24 hours. It usually contains albumin, blood and numerous casts; and the analysis in mild cases gives little satisfaction. In

pronounced cases there is a considerable diminution in the total nitrogen, with a decrease in the urea, falling often as low as 50% or to 10 to 12 grammes in 24 hours (normal 20 to 24 grms.) The ammonia nitrogen, amido acid and undetermined nitrogen are increased.

Eclampsia, the attack. Unconsciousness, often not noticed by the attendant, followed by spasmodic contraction of the smaller muscles of the face, (*Risus Sardonica* of older writers), the mouth twitches and is drawn to one side, the face usually being turned to the right. The eyelids open and shut, the globes rolling up. (Williams states from side to side). The head is thrown from side to side. The thumbs are flexed, the hands are clenched. The forearms are rapidly flexed and extended across the chest. These clonic convulsions are succeeded by general tonic muscular rigidity, with *opisthotonus*, the breathing is stertorous and occasionally there is suspension of respiration, the face *becomes* cyanotic, there is foam expelled from the mouth and the jaws are clenched. Increase of pulse rate and tension, and a temporary rise of temperature usually accompanies each seizure. These convulsions vary in duration and severity, and are succeeded by coma, from which the patient often rallied with no recollection of the attack.

Urine analysis gives results similar to the prodromal stage, the difference being that hyaline and granular casts predominate, the quantity is smaller, and the albumin is usually more pronounced. (In some cases there is no albumin). With the advent of a convulsion the ammonia coefficient is decreased, which

rapidly rises after delivery. In the fatal cases, Williams states it remains low.

I might mention here, that recent literature divides this condition into two types, which are being recognized clinically before urinalysis at the N. Y. Lying In Hospital. (*Cragin & Edgar*). 1st., *The hepatic type*; in this aside from the convulsions, there is vomiting, little edema, little albumin and casts, often jaundice, tenderness over the liver and ascites, with urinary findings similar to pernicious toxicemic vomiting. 2nd. *The nephritic type*, in which we find marked albuminuria and casts, headache, high tension pulse, disturbance of vision, nervous irritability and a slow but progressive course.

The foregoing must be differentiated from uremia, hysteria, epilepsy, cerebral lesions, insanity, acute yellow atrophy, and possibly from strychnine poisoning and tubercular meningitis.

Just a few words on prognosis, which may aid in deciding upon our treatment. As the prognosis of pernicious toxicemic vomiting and acute yellow atrophy are very bad, it behooves us to think of treatment early. In 51% of the cases of eclampsia, the convulsions ceased with delivery. In the recovered cases the average number of convulsions were 4.6. In the fatal cases 12. (*Partridge*).

Treatment.— Assuming that the diagnosis is established, and the disease has not advanced too far, we may try to head off trouble by using sedatives, eliminants, hygiene and diet, rest in bed, a laxative or enema daily, fresh air, and a milk diet (plain or modified).

To this may be added:

For pernicious vomiting, cocaine gr. $\frac{1}{4}$, bismuth subnitrate gr. v a short time before

nutriment; chloretone gr. iv the same way; or other stomach sedatives may be tried. If not successful, gastric lavage, leaving 500 c. c. of a 1% solution of bicarbonate of soda in the stomach. Or as Schwarzenbach recommends, lavage of the stomach on waking, accomplished by copious drinking; followed by some light nutriment, which must not be fatty or greasy, every two hours, and continued into the night if awake. Rectal feeding may be resorted to.

For acute yellow atrophy, the same treatment will hold good. In addition use the ice bag for pain, and chloral and sodium bromide for the nervous manifestations.

Prodromal stage of eclampsia. The patient is put in bed to quiet the nervous system and diminish the liability to convulsions. A milk diet is essential. Plenty of water and cream of tartar lemonade are given to flush the intestines and kidneys. If there is no improvement in the urinary findings, epsom salts should be given in small doses enough to cause 8 to 10 watery movements in the 24 hours; together with a hot pack or sweat bath daily.

Norris claims that he has yet to see a woman die of eclampsia, from whom he was able to secure 20 to 30 watery stools a day. For this he gives epsom salts in two ounce doses, and if not retained 3 to 5 min. croton oil in olive oil.

If the urea still decreases, and the subjective symptoms and urinary findings do not improve, there is only one sensible as well as radical thing to do; that is, *empty the uterus*. In acute yellow atrophy this cannot be done too soon, as the condition gets worse for a time after delivery.

In the early months, resort to prompt

abortion, without anesthesia; using a sterile tent to dilate the os. When dilated, rupture the membranes, pack the lower uterine segment and vagina, and deliver the next day. If urgent, dilate with a dilator, rupture the membranes and deliver. When the os is rigid, vaginal hysterectomy (vaginal caesarean section) and deliver. Following any of these methods copious saline enemata and no food for some time.

In the later months introduce a sterile bougie, pack the vagina and thus stimulate natural labor. When the os is sufficiently dilated, resort to forceps, version or other obstetric operation.

Eclamptic attack. Control the convulsions with ether. Eliminate the toxins by giving a hypodermic injection of Fl. Ext. of Veratrum Viride M, xv. repeated in v. minim doses every hour if convulsions recur, or until the pulse decreases to about 60. Wash out the stomach and colon; then through the stomach tube introduce oz. ii castor oil and m. iv croton oil. Use hot vapor baths or pack and if this does not help and the patient has had more than two convulsions empty the uterus.

First. If the patient is well advanced in labor, use forceps. If a breech, slight traction.

Second. If the patient is seen early, and the urinary findings indicate danger, it is in order to interfere; using Pomeroy or Barnes' bags to dilate; follow this by forceps if the head is low down or engaged; version, if not.

Third. If the patient is going from bad to worse under treatment, or if there is extreme urgency, stretch the os manually or instrumentally or if rigid, cut. This if unsuccessful may be followed by vaginal

hysterectomy or caesarean section. In dystocia, caesarean section is necessary.

The French use a method of treatment like the following: Nitroglycerine 1-50 gr. Sparteine Sulph. gr. $\frac{1}{4}$, caffeine sodium benzoate gr. 2 every 4 hours. Then irrigate the rectum with warm water using a modified double current tube, each irrigation lasting $\frac{1}{2}$ hour: This is repeated every 4 hours. Chloral by rectum 90 grs. every 4 hours, morphine sulph. gr $\frac{1}{4}$ ounce.

After Treatment. Ergot is contra-indicated, as the loss of blood is beneficial in that it carries away a certain amount of toxins. If the loss of blood is too great, we examine for a tear and if not present, we give a saline injection and pack the uterus and vagina.

To overcome the depression incidental to the delivery and treatment, we should use salines at a temperature of 105° either by transfusion, subcutaneously under the breasts, or by rectum. The amount should be about 2 quarts, repeated in 2 to 4 hours. The action of the saline is that it dilutes the toxins, so diminishing their irritating action on the liver and excretory organs; it also stimulates the heart, and increases the urine in amount and quality. (*Not to be used if edema is present*).

For the convulsions and nervous symptoms chloral and sodium bromide may be used.

If the convulsions continue, we may withdraw 300 to 500 c. c. of blood, replacing it by physiological salt solution (*Williams, Hirst, Norris and others*).

The urine should be drawn every 6 hours unless voided, and the quantity recorded and each sample examined.

For diuresis, sodium acetate or cream of tartar:

"For Catharsis, a saline oft repeated, elaterium gr. 1-16 every 2 hours; if these fail croton oil m. 1 or 2.

For diaphoresis, hot packs, hot blankets or hot or steam baths; the pulse meanwhile, being watched closely. Weakness of the pulse requires discontinuance and free stimulation with black coffee, caffeine, digitalin or camphor in olive oil.

For edema, strychnine and atropine are recommended.

The use of morphin has for its advocates, (*Veit, Williams, Davis and Stroganoff.*) Stroganoff reporting 58 cases with no mortality. He advises the use of morphin and chloral as follows: Morphin gr. $\frac{1}{4}$ subcutaneously at the first convulsion to be repeated once or twice at hour intervals according to the severity of the case; the last dose to be followed after two hours by chloral hydrate 20 to 30 grs. by mouth or rectum, this to be repeated in 4 to 6 hours in doses sufficient to keep the patient drowsy for at least 48 hours. If the convulsions recur, the morphin is to be repeated as above and oxygen freely administered: Never ether or chloroform. All examinations and forced delivery should be avoided unless it causes little shock and in those cases where treatment seems to be of little avail and then as a final recourse rather than one of choice. Hot air and hot water are not to be employed. Stimulants, especially normal saline to be employed when indicated: Milk diet.

From reports, this treatment seems best for cases occurring post-partum.

Edebohls, Sippel and De Bovis advise decapsulation of the kidney in cases in which the convulsions continue after de-

livery. The good derived from this operation is being questioned to-day.

Just a few words on the other conditions, Williams considers toxemic. *Reflex pernicious vomiting* is due to irritation of the nerves locally, caused by a displaced uterus, a tumor or other disturbance of the economy. *There is no pathologic lesion, and the ammonia coefficient is normal.* Treatment corrects the cause.

Neurotic vomiting. *No lesion and the ammonia coefficient is normal.* The patient is put to bed, absolute quiet being insisted upon; tell her that her condition is not a serious one. Give her large amounts of saline by rectum.

This type is often amenable to suggestive treatment as threatening to do an abortion. Electricity and stretching the os are frequently effective. We may however have to do an abortion on account of the persistent vomiting and progressive loss of weight.

Nephritic toxemia is associated with primary lesions of the kidneys in patients who were formerly suffering with chronic nephritis; or in a patient where an acute process develops during pregnancy. If it were not for the changes found in the urine, the patient would appear but slightly ill. Yet she may suddenly pass into coma, have convulsions and die. The urine is normal or slightly increased in amount, albumin and casts are present, the total nitrogen and urea are normal, while the ammonia nitrogen may be normal or decreased.

Treatment, when coma and convulsions do not occur is the same as the prodromal stage of eclampsia. Coma and convulsions occurring, treat as you would eclampsia.

CORRESPONDENCE.

RELIGION AND MEDICINE.

COLUMBIA UNIVERSITY,
FACULTY CLUB,

November 14, 1908.

EDITOR AMERICAN MEDICINE:—

In the October issue of AMERICAN MEDICINE I find the following:—"The danger of a little knowledge is the fault of Worcester's book 'Religion and Medicine,' for it contains errors of fact and inference, is interlarded with baseless assumptions, refers to theories discarded 30 to 50 years ago, and mixes the spiritual element with purely material matters."

May I venture to ask you to tell the readers of your magazine, myself included, what these errors of fact and inference, baseless assumptions and references to discarded theories are? I have read the book and should be greatly obliged to you if you would specify page, passage and proposition in the matter. Dr. Worcester, you will, I am sure, agree, has earned by reason of particularly laborious and fruitful service the right to have the offences specified of which he is accused. It is indeed the right of every man.

DICKINSON S. MILLER,
Professor of Philosophy.

A thorough compliance with Professor Miller's request would require more space than any periodical can spare and reviews are of necessity always couched in very general terms, but the importance of the matter has so increased that further comment at least is demanded. It was hoped that the Emmanuel movement was the solution of the problem of bringing comfort, happiness and relief of some symptoms, to a large class of neurasthenics, mostly incurable, who pass their existence in a weary round of visits to doctors, dispensaries, hospitals, sanitariums and health resorts and who form the clientele of quacks and illogical cults like Christian Science. Every physician, no matter what his own religious beliefs, knows by professional experience that prayer and priestly ministrations produce a soothed condition of mind which is a decided help to recovery or at least comfort. This result is one of

the reasons for the universality of religion of some sort and can no more be ignored by physicians, than any other psychological phenomenon. In only one case must priests be excluded from the sick room, and that is where there is such a morbid fear of death, that their appearance would be a shock to the patient. But all this means that religion must be used as an instrument to assist medicine, and if that relation could have been maintained the new movement would have done good, but unfortunately it has escaped medical control and is running riot,—bolted, as one writer has so happily stated—and a few clergymen have been unwise enough to state that in spite of their ignorance, they can treat some diseases better than neurologists who have devoted a life time to the study, and whose numerous cures are just as good as those obtained with priestly assistance—if not better. Hence there has recently arisen a wide-spread opinion that the uncontrolled movement is already doing harm, in the way of instilling false hopes and also keeping cases from rational management, particularly those in the early stages of a breakdown. The suggestion that this opposition is based on professional jealousy or anger at loss of "business" is really too horrible to be noted. It is a serious matter involving life as well as comfort.

The basic fault of Worcester's book is the assumption that "functional" diseases do not have a material basis, either an auto-intoxication, a defect of some kind or a strain due to malformation. The further assumption of "moral disease" must of course be ruled out of court, for there is no evidence that there is such a condition unconnected with material causes. Normal children who are taught to be criminals might be excepted, but even here it is a normal reaction—the very opposite of what we call disease—and about ninety percent. or more are "cured" by modern methods of reformatories. That is, they reach normality by restoring a normal environment,—an invariable biologic law.

The statement that there is a reaction against materialism is wholly false and highly dangerous. Medicine deals with the house, irrespective of what the physician thinks of its occupant, the soul, or whether he thinks there is an occupant at all. A carpenter deals with wood and iron and

stone, and gives no thought to the future tenants. His religious beliefs do not alter the fact that his calling is a material one, and though there may be less atheism among physicians than there was a few decades ago, they still are solidly materialistic in their professional work. Indeed, it is this uncompromising belief in a material cause of every abnormal function which is advancing medicine at such a tremendous rate. The Emmanuel movement is pernicious in that it tends to check the search for causes, on the ground that there is no further need of investigation in these alleged "spiritual" cases. It is stated that this movement is based on the teachings of the New Testament, teachings violently assailed by clergymen themselves, but it is needless to say that one's opinion of the Gospels should not be allowed to influence him in searching for the material cause of symptoms once called "demoniac possession."

It is rather old fashioned to claim that most diseases are cured by a *vis medicatrix naturae*, and illogical to assert that a spiritual something is demanded after all. It is doubly wrong to group all unconscious nervous phenomena—even tricks of memory—into a sub-liminal personality or spirit whose very existence is assumed and then assert that certain symptoms are diseases of that hypothetical creature, and it amounts to the ridiculous to speak of this thing as an unconscious or subconscious consciousness—a mere play upon words. The accusation that physicians as a class are ignorant of this new psychology is a fortunate fact and we hope the medical schools will continue to ignore it. Medicine is based on facts and it could not live if it were to group nervous phenomena, call the group a new entity, and then use these phenomena as proof that entity exists. Giving a new name to a class of things does not organize them into a creature.

Medicine separated from religion because it dealt with the material exclusively, and it must remain separate forever. This new attempt to merge them is so full of inconsistencies, that almost every paragraph is unacceptable. It is particularly dangerous in its attitude towards suicidal mania which is now known to be invariably a result of material bodily changes which temporarily make life not worth the living.

To consider it a spiritual disease and bolster the patient up with words when he might be in need of nitrogen is medieval. The same may be said of psychasthenia, with its signs of nerve starvation—agitation, perplexity, over scrupulousness, phobias, anxieties and indecisions. Suicides and other depressions are far more common in June than in December, and the Emmanuel treatment does not attempt to explain why a spirit is more diseased at one season than another. The misstatements in the account of nervous conditions are really too numerous to particularize, but enough is mentioned here to show that the writers see nothing ridiculous in mentioning the effectiveness of a belt for enfeebled conditions.

There is nothing more true than that "the shoemaker should stick to his last." Physicians and priests must do the same. One is a carpenter repairing a house and deals with materials, the other concerns himself with the inmates. Each can aid the other—not usurp his functions. Originally the movement was to be commended but since it has bolted it is time to call a halt.

Let hypnotism be left to those physicians who know how to create this state for suggestion, and who know what cases will be benefited. Every patient helped by suggestions delivered in the hypnotic state, might be even better managed by suggestions properly given when fully conscious. It is the neurologist's art to do this. Above all, it must be known that a nervous system which misbehaves needs many other things besides discipline or support—food, rest and proper exercise in a proper environment. The materialism which Worcester deplors will eventually find the causes of the cases he treats and render all such movements unnecessary. [EDITOR.]

Probing for needles and splinters which have deeply penetrated the skin may be facilitated, and also rendered painless, by the use of the hypodermic syringe, as suggested by an English physician, Dr. Neas. After an injection of cocain solution has been made near the point of entrance of the foreign body, the needle is left in place and used as a probe. By gently pushing it on and moving it about, the point clicks against the foreign body, and its location is thus easily determined.

ETIOLOGY AND DIAGNOSIS.

The Use of the Differential Cutaneous Reaction in the Diagnosis, Pathology, and Treatment of Tuberculosis.¹—By Dr. Ladislaus Detre, Privat-Dozent in the Kön. Ung. Universität, and Chief of the Jenner-Pasteur Institute and of the Tuberkulose Abteilung in the Charite-Poliklinik, Budapest.

1. The author's differential cutaneous reaction, a modification of v. Pirquet's procedure, consists in the application to the skin, after v. Pirquet's method, of three different substances at the same time: (a) Concentrated old tuberculin; (b) filtrate of a culture of human tubercle bacilli; and (c) filtrate of a bovine culture.

2. Division of the cases into (a) those which are sensitive to the (positive) toxin, and those which are not (negative); and (b) into cases positive to human, and cases positive to bovine, tuberculin.

3. Positive individuals are found chiefly among early cases; also older cases with good reaction; and quite frequently in old surgical cases. The older the process, the more rapidly the reaction to the toxin (filtrate) disappears.

Chronic tuberculosis depends solely on tolerance to the toxins.

4. When the test is repeated at short intervals, the cutaneous picture obtained is constant; very feeble reactions are rendered more distinct by repetition. Modifications of the cutaneous picture, however, occur; thus a marked reaction, characterized by large papules, may be replaced by a milder eruption; or the reaction may gradually increase from zero to a degree of considerable intensity.

5. In adults a primarily marked reaction may be diminished by various factors; (a) spontaneous cure or arrest of the process; (b) sudden flooding of the organism with tuberculous products (military tuberculosis); (c) by the establishment of immunity.

6. A primarily feeble or rudimentary cutaneous reaction may be intensified by: (a) the sudden appearance of a previously latent infection, as after catching cold;

physical and psychic traumatism, over work, influenza, or pneumococcus infection, etc.

(b) The reaction may be intensified during the course of the disease, when the immunization treatment is employed with improper dosage and intolerance, instead of immunity, results. Cases of this kind develop the familiar picture of the tuberculin reaction; a local reaction at the site of the faulty injection, symptoms of general intolerance, particularly symptoms of intoxications, such as malaise, emaciation, loss of appetite, increased pulse frequency, insomnia, headache, anemia, etc., and the reappearance of the toxin papule after it had long disappeared.

7. The cutaneous picture is an indicator of the sensitiveness of the organism.

8. With the author's method, tuberculous subjects may be divided into two groups: Those which are positive to human, and those which react to bovine, toxin. For this purpose, the filtrate cultures are recommended rather than the tuberculins. The author distinguishes the "dominant" papule, which is observed in chronic cases with feeble reaction, and particularly in initial positive cases; and the "concomitant" papule. The difference between the two, however, is sometimes very slight.

9. Investigations carried on since May, 1907, with reference to the human-bovine question show that: (a) the cutaneous picture remains qualitatively the same after repeated examinations; that is to say, a "human case" does not later on show the picture of the bovine reaction. (b) When both toxins are injected subcutaneously, the subjects show a greater tolerance for the toxin which corresponds to a slight or negative papule formation; while, on the other hand, they are exceedingly intolerant to the dominant filtrate. On simultaneous injection of both filtrates the dominant filtrate may produce a local reaction with infiltration and redness, even when the dose is 100,000 times small (1,100,000,000 cg.); whereas the other filtrate must be given in considerable quantities to produce a toxic effect. When the injections are made at different times, the organism can be immunized to the dominant filtrate only with the greatest difficulty, as the filtrate rapidly produces symptoms of intolerance. The organism is intolerant to the dominant fil-

¹Abstract of a paper read before the International Congress of Tuberculosis.

trate. (c) The blood-serum in cases positive to human tuberculin contains precipitins for the proteids of the human bacillus (Bonnome's method), but is very inactive against the bovine proteids. In bovine positive cases, the opposite is observed.

10. The author's investigations, confirmed by Berend, Heim and John, and v. Gebhardt, show that more than 90 per cent. of all cases of pulmonary tuberculosis exhibit a preponderance of the human reaction; whereas in visceral and surgical cases (in adults) the bovine reaction may be demonstrated in one-third to one-half the cases.

11. The reaction to human or bovine toxin should be determined under the following conditions: (a) To confirm a difficult diagnosis and answer certain hygienic questions in regard to infection-carriers and the mode of infection (inhalation or ingestion). (b) In the study of the question of the dualism of the tubercle bacillus, cattle react much more vigorously to bovine than to human filtrates. (c) To answer the question in regard to the origin or type of the bacillus, or tuberculins (or filtrates), which can be done within twenty-four to forty-eight hours by selecting the test individual according to his reaction to human or bovine tuberculin. (d) When it is desired to immunize a patient for therapeutic purposes, to the toxins of both types of bacilli. Most tuberculous individuals can readily be immunized with the concomitant toxin, and are intolerant to the dominant filtrate; hence the therapist will select the substance to be employed by the cutaneous picture, and thereby avoid the unpleasant after-effects which sometimes follow the use of unsuitable toxins. The concomitant filtrate produces immunity to the toxin while the dominant produces intolerance.

12. By means of the systematic employment of the differential cutaneous reaction it is possible to immunize a patient against the toxin, provided, of course, the clinical symptoms are kept under accurate observation, with much greater ease and certainty than has heretofore been possible. The technique is simpler, the results are objective and more certain, and more easily perceived than the results of the opsonin method. The differential cutaneous reaction is

recommended to other investigators who wish to gain an insight into the pathologic conditions of tuberculous patients, and who endeavor to influence the tuberculous process by immunization methods.

TREATMENT.

Gastric Ulcer¹.—Walker states that his experience points to the superiority of absolute rest, rectal drainage, proper dieting, massage and proper drug treatment over surgical operation. He thus outlines his plan:

1. Rest. The patient is put to bed for from ten to twenty days. All food and drink, except sterilized water, are entirely withheld during this period. After the enforced fast period, the patient is given hard dry toast, well salted and thoroughly masticated, red beef, only the juice being swallowed, milk, soft eggs, custards and various broths. The diet is gradually increased, and at the same time the nutrient enemata are gradually withdrawn.

2. Drainage. As soon as the patient is placed in bed, calomel and sodium bicarbonate are given, gr. 1-40 (.0015) for 40 doses at intervals of 15 minutes. Every four hours, one dram of a saline laxative is administered in as much water as the patient can take, and is continued until the last dose of calomel is given. Twelve hours after the first dose of calomel the bowels are flushed with a large high normal saline enema, and this colon flushing is used every morning before any food is introduced into the rectum. Sixteen grams of castor oil are given the evening of the second day. No more cathartic is given per os.

3. Diet. Stomach diet after the enforced starvation has already been noted. Rectal diet:

First day:

	Gms.	
Beef tea (strong).....	128	4 oz.
Hydrochloric acid	60	10 m
Glycerite pepsin	8	3ii

Second day:

Milk, peptonized	96	3iiss
Claret	16	3ss
Two eggs.		

Third day:

Malted milk	96	3iiss
Cream peptonized	32	3i

¹F. E. Walker, M. D., Hot Springs, S. Dak., Northwestern Lancet, Dec. '08.

These enemata are given in rotation.

Strychnin, tincture of opium, spiritus frumenti, or other medicine is easily incorporated, as the condition from day to day requires. The method employed is to give the enemata through a No. 17 colon tube, inserted about six inches, at a very low pressure and occupying from 15 to 20 minutes. The enemata are given four times daily. Every morning the colon is flushed with a large enema of normal saline solution. Salt water sponge baths, at a temperature of 70 to 90 degrees are given night and morning, followed by gentle massage with oil. Every other day a thorough alcohol massage is administered. The teeth are thoroughly brushed several times daily, and the mouth is frequently washed with some mild antiseptic solution. Pain is controlled by packs, sinapisms, opium per rectum, or morphin hypodermically. Internally, bismuth, milk of magnesia, lithium citrate, etc., are given by the mouth as required during the time in bed. Hemorrhage is treated by morphin and ice packs. Absolute mental and physical rest is imperative.

The Treatment of Scarlet Fever¹.—The key to the treatment of the average case according to Gordon is to remember that, in scarlet fever, it is the complications which matter, and that these can, to a great extent, be prevented by skilful management. On the other hand, a simple attack is not clinically of any great importance, and, after the subsidence of the initial sore throat, is usually not even uncomfortable. To the children of the poorer classes, the period spent in an isolation hospital is often an unmixed blessing.

In the acute stage, however, we have to relieve the discomfort of the pyrexia, and the pain of the sore throat. For the former, there is nothing so efficacious as total immersion in a tepid bath, and this should be given irrespective of the height of the fever; it is not used primarily as an antipyretic, but in order to keep the skin in a condition of activity, and encourage excretion from its surface, with consequent

elimination of toxins. In the average case, the tepid bath should be given twice or three times in the 24 hours, until the temperature has become normal and stationary, and then once a day until the patient is pronounced free from infection. From the first, the bath should be followed twice a week, or more frequently if there is very free desquamation, by the anointing of the entire skin with olive oil, to which a small proportion (1 percent.) of some convenient antiseptic oil (other than carbolic) is added. Eucalyptus oil is suitable, but it has the disadvantage that it has been advertised as a remedy for scarlet fever. If the throat is very sore, the most efficient remedy lies in packing the neck externally with icebags, but I am not sure that these have any effect on the course of the inflammation, though they undoubtedly relieve pain. Ice may be given also to suck. In other cases, irrigation with very hot water sometimes gives marked relief. In no circumstances should lozenges of any description be used, whether they contain antiseptics, such as formalin or a derivative, or analgesics, such as cocain. Their use necessitates the swallowing by the patient of the septic faucial secretion, which is in itself harmful.

Besides the relief of pain, it is necessary to diminish the absorption of toxins from the fauces by irrigation; for this purpose a douche is used. The patient should lie on his stomach, with the head projecting over the edge of the bed, the forehead being supported by one hand of the nurse. A large quantity of fluid should be employed, at least two pints for each irrigation.

In chronic nasal catarrhs, in which examination fails to show any decided abnormal conditions of the nasal chambers and rhinopharynx, but where the constant dropping of mucus into the throat is very annoying to the patient, marked relief—often for several days—will frequently follow thorough cleansing with an alkaline solution by means of the post-nasal syringe. If carefully used, there is very little, if any, risk of infecting the Eustachian tubes.—*Int. Journal of Surgery.*

¹A. K. Gordon, B. A., M. B., Newton Heath, Eng., *The Practitioner*, Jan. '09.

THERAPEUTIC NOTES.

Remarks on the Effects of the Common Antiseptics¹.—Mercade considers the various common antiseptics and speaks particularly of the toxic symptoms that may follow the unwise use of these extensively employed adjuvants to surgical treatment.

CARBOLIC ACID may produce both local and general symptoms. Of the former the most frequent is erythema which is usually preceded by agitation, loss of appetite, and a slight rise in temperature and pulse rate. The wound to which the solution has been applied becomes painful and swollen while redness and pruritus occur around it, and may extend to the neighbouring skin. At times an eruption of small vesicles takes place or true eczema may occur. The suppression of the cause is followed by recovery in a few days. Gangrene of the dry form and practically painless may be produced. The tissues become yellow, brown and finally black, and the slough separates in a fortnight or 3 weeks. While strong solutions should be avoided there is reason to think that the penetrative power of solutions under 5 per cent. renders them still more dangerous, especially when applied for a long time or accompanied by firm compression. This condition may be treated by the use of alkaline lotions if seen in its early stages, but as gangrene usually exists before the case comes under observation surgical measures are required. General symptoms due to carbolic acid may occur suddenly after, or even during an operation, or develop more gradually. There is violent headache, sometimes convulsions, followed by nausea and vomiting. The urine, becomes dark. The pulse is small, the face pale and moist, with chilling of the extremities and a fall of temperature to 95° or under, the more severe cases being often rapidly fatal. It is important that carbolic solution should not be allowed to stagnate in wounds from which there is not free drainage, and should toxic symptoms develop the application should at once be discontinued. In acute poisoning the patient must be stimulated while

the action of the kidneys is assisted by abundance of fluid by the mouth. The use of a 5 per cent. solution of sulphate of soda or magnesium sulphate has been recommended with the view of rendering the carbolic acid inert by the formation of the harmless sulpho-carbolates.

IODOFORM may produce some local signs of irritation of an erythematous nature, but these are of less importance than the general toxic symptoms. The slighter cases begin with distaste for food, nausea, and occasional vomiting. This is followed by insomnia, agitation, and occasionally by delirium. The urine contains iodides, and the wound is surrounded by an eruption resembling urticaria. The temperature is unaffected, and the healing of the wound proceeds normally. In more severe cases the onset is more sudden. After a short period of gastric disturbance, mental excitement, hallucinations and delirium occur while the pulse becomes very rapid. This condition may last a few days or persist for a considerable time, but in cases in which further absorption takes place the excitement gives way to depression and death occurs from collapse. The treatment, besides the suppression of the iodoform, includes the use of opiates, bromides, diuretics and the administration of a 5 or 10 per cent. solution of the bicarbonate of soda or potash.

CORROSIVE SUBLIMATE may produce severe local irritation but in surgical practice is rarely absorbed in sufficient quantity to produce grave symptoms. A metallic taste in the mouth has been observed after the immersion of the hands for 5 minutes in a mercurial solution and salivation, ulceration of the gums, colic, vomiting and diarrhoea have also been noted. The pulse becomes small, there is a tendency to collapse, and albuminuria is often present. Severe cases are usually the result of the retention of the solution in natural cavities or in the recesses of lacerated wounds. The elimination of the poison should be hastened by diuretics while the stomatitis may be treated with chlorate of potash and stimulants given for collapse.

HYDROGEN PEROXIDE can only produce general symptoms when directly injected into the circulation and any erythematous or ulcerative lesions should be attributed to

¹S. Mercade, M. D., Paris, *Archiv. Generales de Med.*, July, '08, p. 491.

impurities. The disengagement of oxygen which takes place may cause pain when injected into cavities such as the bladder, while in lacerated wounds this action may open up fresh routes for infection. Hydrogen peroxide bleaches hair and by softening catgut ligatures may predispose to secondary hæmorrhage. In some cases it has caused embolism from oxygen entering the vessels.

BORIC ACID occasionally causes severe and even fatal toxic symptoms, as death has followed washing out the pleura with 5 per cent. solution. In a case where, after the removal of inguinal glands, the wound was filled with boric acid in powder, toxic symptoms occurred on the third day in the form of local erythema accompanied by cyanosis, cold sweats, vomiting, and chilling of the extremities. The temperature rose to 100.8 and the patient died in delirium.

CAMPHORATED NAPHTHOL, when injected into cavities, or used as an interstitial injection, has not infrequently produced convulsions, this result being more liable to follow the use of an old solution than one recently prepared. When toxic symptoms are recognized the cavity should be laid open and after evacuation of its contents well washed with boiled water.

SUBNITRATE OF BISMUTH, though harmless when given internally, even in large doses, may produce toxic symptoms when applied as a dressing, perhaps because it is more readily absorbed after contact with albuminoid materials. Some days after its application a black line may appear on the gums, which are often painful, while purplish patches occur on the mucous membrane of the mouth. Vomiting, diarrhœa, fever, and obstinate hiccough are often observed and the urine assumes a blackish colour. These symptoms persist for a considerable time after the suppression of the bismuth.

PERMANGANATE OF POTASH is harmless in the solutions usually employed, but in strong solutions it may act as a caustic on the mucous membranes and even on the skin.

CHLORIDE OF ZINC, when too energetically used, or when its solution is allowed to remain in prolonged contact with the tissues, may produce sloughing.

HYGIENE AND DIETETICS.

The Technic of Properly Nursing the Baby¹.—Preparation for nursing a child should be made early in pregnancy. Take proper care of the nipples before delivery. If the nipple be flat or depressed apply systematic suction or manipulation. Endeavor to prevent fissures and mastitis, which very often interrupt otherwise successful nursing.

The greatest difficulty in the technique is to be overcome in the first days of birth, as the application of the child to the breast at this time is especially troublesome for the reason that the mother is inexperienced and for the necessity for her to remain in the uncomfortable dorsal position on account of the pelvic organs. So in the first few days she must give the breast to the child lying down, while with some assistance she turns a little to one side. Later on she nurses the child in a sitting posture, and best on a low seat so that the hand that holds the child rests upon the elevated knee, and with the other hand she grasps the breast, the thumb resting upon the upper surface and keeping the breast far enough away from the face so that the child's nose is left free for breathing.

When lactation is completely developed it is only necessary to see that the breast is completely emptied to avoid stasis. To accomplish this, warn the mother not to nurse the child at random from either breast, so that it takes a little from each, but does not empty either completely. Where you have an amount of milk sufficient for the child's nourishment, it is advisable to allow the child to nurse at only one breast (except in the first week when lactation is not yet at its height). If in spite of all this, there happens an engorgement of the breast, the breast must be emptied artificially.

The mode of life of the nursing woman should hardly be different from that of any other woman. The clothing should be so that there is no pressure upon the breasts and these be easily exposed. Bodily movement and moderate work are necessary for a good general condition. The breast itself must be kept warm and clean. Wash nip-

¹H. Lwedlaw, M. D., Birmingham, Ala., Alabama Med. Jour., Jan. '09.

ples before and after application of child with sterile water or a weak boracic acid solution. Warn against the obnoxious habit of moistening the nipples with the secretion of the mouth.

In regulating the diet of the nursing woman it is only necessary to remember that the body loses daily with the milk about one litre of fluid and 750 calories of heat and that this loss must again be made up; the diet should be as abundant and as tasty as the nursing woman is accustomed to take. The great need of fluids must not be forgotten. Cow's milk is especially recommended as a drink.

GENERAL TOPICS.

A Doctor's Symphony.—In the rush and struggle to achieve fame, power or wealth we all too often lose sight of the things that after all make life worth the living. Consciences become calloused, hearts become hardened, and friends, family and kindred are all neglected for the one great passion, hustle. In time it becomes a mania, this insatiable desire to get on, and so we hurry along, through all the years, blind to every thing but the fleeting visions of success, that a warped and narrowed mind creates. Then, some day in a lucid moment, we learn how empty is the life that is dedicated to ambition alone. Too late, usually, the awakening comes, and peer as we may into the past for faces and forms we loved, for scenes that once delighted and inspired, they come no more. Grope as we may for dear, clinging hands, speak with all the yearning that swells our heart, no answering voice replies. They have gone. Success, true, may be ours, but too often it is a tinselled bauble, when compared with the sacrifices and the happiness it has cost, the neglected opportunities for better things its pursuit has weaned us from, and the dear ones it can never bring back.

A few words penned by Dr. George F. Butler, one of Chicago's ablest physicians, a poet and a philosopher, have been responsible for this little reverie and we want our readers to enjoy them as we have. So here they are:

"A DOCTOR'S SYMPHONY.

"With this New Year resolve to live without anger, avarice, envy and littleness.

Resolve to be generous, liberal and kind; to recognize the extreme value of health and human life and to strive by every means to call back the tide of disease and death; to give something to shape the million-handed labor to an end and outcome that will leave more sunshine and more flowers to human kind. Let your labor be so ordered that in future times the loved ones may dwell longer with those who love them; open your minds; exalt your souls; widen the sympathies of your hearts; face the things that are now as you will face the reality of death—fearless and alone. Remember that the battle of life cannot be fought by proxy; be your own helper.

Go thou alone—
Let not thy courage fail,
Nor weight of pain avail
To stay thy onward feet.
What e'er betide thee sink not
E'en in thy anguish think not
Under God's generous sun
So much of sorrow lives save goodness to
complete.

Go thou alone—
Though friends and fortune pass
Beyond thee, and alas
Love's visions fade away,
Look to the stars and ponder
How poor thou art, and wonder
How the vast undertone
Of thy creative thoughts could blossom in a
day.

Go thou alone—
The breathing atom in thee
Shall one day rise divinely
From this its cradled head.
Be wise and brave and loving,
From lowliest essence moving
In circlets one by one
Up to thy perfect shape, the highest earthly
power."

LITERARY NOTES.

Backbone.—Here is a book to delight the optimist. Fresh and crisp, it is just about as full of helpful ideas and happy thoughts as a book of its size could well be. To a large extent the work is a compilation, but here and there one finds a touch of the compiler's personality and then the *raison d'être* of the work becomes clear. Optimism, courage, hopefulness, with a dash of sentiment and a sprinkle of clever humor—this is the formula of this particular preparation of Backbone.

To S. DeWitt Clough does the credit belong for this delightful little book. Any man who can in the midst of a busy life thus contribute to the pleasure of his fellows, deserves no little praise, and gratitude. A world of inspiration lies within the covers of such a book and one never knows just how great an influence some little thought gleaned from its pages may have in the life of the reader.

It ought, therefore, to be a source of great satisfaction to the author of Backbone to feel that he has helped not one, but many to get a new grip on life, and with new hope, new courage and a little stiffer "backbone" go on to better things.

That's the real thing in life, to try a little, boost a little and help a little. Backbone is bound to help because, while unpretentious, it rings true wherever you strike it.

The Surgery of the Ear.¹—This is said to be the only book in the English language devoted exclusively to surgery of the ear. However that may be, there is one thing that impresses the reader of this exceedingly valuable work, and that is that here is a book by a man who knows his subject. Kopetzky is one of New York's younger specialists but he has rapidly come to the front and has won his place by hard work and sheer ability. His book tells more eloquently than anything else the good work he has been doing.

Very wisely, considerable space is given to anatomy of the ear. The illustrative plates are beautifully executed and add greatly to the utility of the work. They were well chosen and apparently no cost has been spared in their execution.

Chapters are given on the operations of the external canal; on paracentesis; aural polyps, and operations to improve hearing in dry middle-ear lesions and ossiculectomy. We then pass on to a consideration of the simple mastoid operation, to which 20 pages are devoted; the radical mastoid operation, 55 pages; the surgery of the labyrinth, 60 pages; operations on the blood vessels, in-

ternal jugular vein and lateral sinus, 20 pages; the surgery of the meninges, 40 pages; the surgery of otitic cerebral and otitic cerebellar abscesses, 30 pages; paralysis of the facial nerve, 10 pages.

Lumbar puncture comes in for ample consideration and the author points out its special diagnostic utility.

It is in his discussion of disease of the mastoid cells that Kopetzky shows his comprehensive grasp of ear surgery. Probably no disease affecting the human family calls for such sound judgment, such Napoleonic decision, and such nicety of operative technique. Differential diagnosis is necessarily of prime importance and the author shows a degree of conservatism that is particularly noteworthy, because radicalism is generally thought to be a necessary feature of a young surgeon's work. In the present instance, the author demonstrates a maturity of judgment that would be notable in a man of many more years experience. It points in no uncertain way to the well grounded manner in which Kopetzky has approached his subject. The different operations are each considered. While in the main the discussion follows the accepted views it is evident that the author thinks for himself when occasion demands.

Finally if we have seemed unduly enthusiastic concerning a book on so narrow a subject we must attribute it to genuine admiration for the energy, industry and ability of the author. His book may truthfully be spoken of as the latest and best work on the ear. It is not likely, moreover, to be soon supplanted, for it will be many a day before any one else will have the courage and requisite knowledge to attempt to better Kopetzky's work in any particular.

SOCIETY PROCEEDINGS.

THE EASTERN MEDICAL SOCIETY OF THE CITY OF NEW YORK

Stated Meeting Friday, January 8, 1909. Dr. Wolff Freudenthal, President, in the Chair.

Dr. H. Chimenski presented a case of tabes dorsalis complicated by exophthalmic goitre. This was followed by an exceedingly interesting exhibition and demonstration by Dr. A. Bassler of photographs of

¹The Surgery of the Ear, by Samuel J. Kopetzky, M. D., Attending Otologist New York City Children's Hospitals and Schools and to the Red Cross Hospital; Pathologist and Surgeon, New York Throat, Nose and Lung Hospital, etc. New York: Rebman Company. 1908. Cloth, \$4.

lesions of the gastro-intestinal tract. Dr. Wolff Freudenthal, the re-elected president then gave a short address on the needs of the Society. He pointed out the greatly improved condition of the organization and emphasized the continued necessity for earnest and well directed efforts, in order to reach the goal that the members were desirous of reaching.

The first paper of the evening was on *The Drink Habit and Its Treatment*, by Dr. Chas. Rosenwasser of Newark, N. J. The speaker handled his subject from a practical standpoint and urged the desirability of treating each case on its individual merits. The paper was ably discussed by Drs. M. Keschner, Richards, E. Altman, G. R. Satterlee, Weinstein and J. B. Huber.

The next paper was *The Early Diagnosis of Incipient Tuberculosis with a Consideration of the Newer Methods*, by Dr. John B. Huber. (This valuable paper with full discussion will appear in an early issue of AMERICAN MEDICINE). The discussion of Dr. Huber's comprehensive dissertation was opened by Dr. G. R. Satterlee, followed by Drs. Harrower, Climenko, Stark and Freudenthal, Dr. Huber closing. At the close of the scientific session six candidates were elected to membership. The meeting then adjourned to enjoy a collation provided by Drs. Bassler, Jarecky and Robinsohn.

NOTES ON MODERN PHARMACEUTICAL REMEDIES.

(Continued.)

NEURO-LECITHIN.

(Abbott)

Description: A preparation containing lecithin obtained from the brains and spinal cords of animal.

Formula: Lecithin as it exists in this product consists of the esters of the various fatty acids with glycerophosphoric acid combined with cholin. Its phosphorus content is relatively high and accounts for its marked effect on nutrition.

Action: Neuro-lecithin (Abbott) is tonic and reconstructive. It is a stimulant to vital functions and is said to materially

aid in reducing tissue waste, particularly of the nervous system. It is a true hemato-poietic and increases the cells and hemoglobin of the blood. Neuro-lecithin (Abbott) is non-toxic. It should be kept in well stoppered bottles and away from the light.

Uses: This product has been recommended in the treatment of faulty metabolism, and malnutrition generally. In certain forms of anemia particularly of childhood it has been found exceedingly useful. In functional nervous diseases its administration has given very satisfactory results. In fact, Neuro-lecithin (Abbott) may be administered with advantage whenever it becomes necessary or desirable to stimulate and assist bodily nutrition.

Dosage: 0.03 to .13 Gm. ($\frac{1}{2}$ to 2 grains) two to four times daily. Neuro-lecithin is put up in tablets and pills, each containing 0.03 Gm. ($\frac{1}{2}$ grain).

Special Consideration: Its special character, reliability, and therapeutic utility.

References: A description of Neuro-Lecithin appears in "New and Non-Official Remedies," *Jour. A. M. A.*, Mar. 21, 1908.

Manufacturers: The Abbott Alkaloidal Co., Chicago, Ill.

COLCHI-SAL.

Description: Colchi-Sal is a solution of colchicine in methyl salicylate, marketed in small round gelatine capsules.

Formula: Each capsule contains crystallized Colchicine (alkaloid) .25 m. gm. (1-300 gr.) natural methyl salicylate (from *Betula lenta*) .2 gm. ($3\frac{1}{4}$ m.) and the active principle of *Cannabis Indica* .125 m. gm. (1-500 gr.)

Action: Colchi-Sal as indicated by its formula, increases the elimination of uric acid and other nitrogenous waste material through the emunctories. It increases kidney activity and liquefies and increases the flow of bile and stimulates the lymphatics, especially of the splanchnic area. It relieves pain by its sedative action on the spinal cord and sensory nerves; also by its effect in relieving congestion. Finally, Colchi-Sal is antipyretic and antiseptic.

Uses: Colchi-Sal is indicated in the treatment of the various manifestations of gout (to eliminate waste products, relieve the pain, diminish the swelling and shorten the duration of an acute gouty attack. It

increases the activity of the glands of the skin, relieves congestion of the portal circulation and plethora of over fed subjects. Prescribed in inflammation of the internal organs occurring in lithemic patients, with gouty eczemas, gouty bronchitis or rheumatic pneumonia, and is especially useful in intestinal auto-intoxications. It increases eliminative processes and as indicated, Colchi-Sal may be used, it is claimed, with superior results and much less disagreeable effect than accompanies the use of other salicylates.

Dose: The dose of Colchi-Sal consists of a capsule every hour or two until marked relief is obtained. From 10 to 15 capsules daily may be administered with safety.

Special Consideration: The special formula, the care and skill with which the carefully selected ingredients are combined, unvarying character of the finished product.

Bibliography: The formula of Colchi-Sal was first published in 1892, and found a place in the United States Dispensatory, edition of 1905. It is now mentioned in many text books and references to its use can be found in:

- The British Medical Journal of Jan. 31, 1903.
- " Massachusetts Med. Journal, Aug., 1904
- " Interstate Medical Journal, June, 1905.
- " International Therapeutics, Jan., 1906.
- " Cyclopaedia of Practical Med., April, 1906.
- " American Journal of Surgery, May, 1906.
- " Maryland Med. Journal, July, 1906.
- " Milwaukee Med. Journal, July, 1906.
- " Therapeutic Gazette, September, 1906.
- " Therapeutic Medicine, Jan., 1907.
- " Northwestern Lancet, Feb. 15, 1907.
- " Denver Progress, July, 1907.
- " Detroit Medical Journal, Nov., 1908.
- Etc., etc.

U. S. Agents: E. Fougere & Co., 90 Beekman St., New York.

NEWS ITEMS.

The New Surgeon General of the Army.—Surgeon General O'Reilly will retire for age on January 14th next. Under his administration many notable improvements have been made, among them a larger force of commissioned medical officers, the nucleus of a reserve corps, an active corps and a reserve corps of trained female nurses and provision for a volunteer hospital corps in time of war. Col. George H. Torney, Medical Corps, U. S. A., who will succeed Surgeon General O'Reilly, is one of the most efficient medical officers of the army, and his appointment is considered a good one. He was born in 1850, appointed as first lieutenant and assistant surgeon, in 1875; he reached the

grade of colonel on April 23, 1908. He was in command of the hospital ship *Relief* during the Spanish American war, and after the war he was commanding officer of the Army and Navy Hospital, Hot Springs, Ark., of the First Reserve Hospital in Manila, and of the Army General Hospital, Presidio of San Francisco, and chief surgeon of the Department of California. His efficient service during and after the period of the San Francisco earthquake won high commendations from his superiors.

International Medical Congress.—Arrangements have been perfected for the American party to attend the International Medical Congress at Budapest next August. The arrangements for transportation are in the hands of Thomas Cook & Son, and this insures first-class accommodations and satisfaction in all details. Rooms have been reserved at the best hotels in Budapest, but it will be necessary for us to know approximately the number who will attend at an early date, in order that the reservations may be augmented if necessary. A very low round trip rate will be announced, including all expenses, and the writer would be pleased to answer any inquiries in regard to the trip to the Congress, and will send program and itinerary to any who are interested. All communications in regard to membership or scientific program should be addressed to Dr. J. H. Musser, chairman of the American committee, Philadelphia. Communications in regard to transportation and hotel accommodations should be addressed to Dr. Chas. Wood Fassett, St. Joseph, Mo.

Deaths of Physicians in 1908.—During 1908 the deaths of 2,261 physicians in the United States and Canada were noted in *The Journal of the A. M. A.*, the equivalent of an annual death rate per thousand of 17.39, based on an estimate of 130,000 practitioners. This rate does not differ materially from those of the previous six years, which were, respectively: 1907, 16.1; 1906, 17.2; 1905, 16.36; 1904, 17.14; 1903, 13.73, and 1902, 14.74. The age at death varied from 21 to 102 years, the average being 59 years, 6 months and 25 days. The number of years of practice of the decedents varied from the first year of practice to the seventy-sixth, the average being 30 years and 5 months. About 14 per cent. of those who died were members of the American Medical Association. Chief among the death causes were heart disease, violence, pneumonia and cerebral hemorrhage, in the order noted.

Causes of Death.—During the past year 335 deaths were assigned to general diseases; 269 to diseases of the nervous system; 288 to diseases of the circulatory system; 201 to diseases of the respiratory system; 79 to diseases of the digestive system; 109 to diseases of the genitourinary system, and 175 to violence. Among the chief assigned death causes were heart disease, 222; pneumonia, 172; cerebral hemorrhage, 171; accidents, 129; nephritis, 107;

senile debility, 79; tuberculosis, 67; malignant disease, 51; typhoid fever, 37; suicide, 34; septicemia, 33; angina pectoris, 36; appendicitis, 25; diabetes, 23; influenza, 15; homicide, 12; gastritis, 11; tetanus, 4, and glanders, 1.

REPORT OF REFEREE COMMISSION ON BENZOATE OF SODA.

The referee board appointed to determine whether benzoate of soda used in food as a preservative is harmful and deleterious to human health has decided that it is not and thus flatly takes issue with Dr. Harvey W. Wiley, chief of the Bureau of Chemistry of the Department of Agriculture, who holds that it is harmful and injurious and who was responsible for the issuance of a series of restrictive regulations under the pure food act concerning the use of benzoate of soda by canners.

Food manufacturers from coast to coast brought pressure enough to bear to induce President Roosevelt to appoint a referee board to determine the question, and pending its decision the manufacturers have been allowed to use one-tenth of 1 per cent. of benzoate of soda, providing the use of such preservative is plainly stated on the goods offered for sale.

The referee board was appointed last March and consists of Dr. Ira Remsen, president of Johns Hopkins University; Russell H. Chittenden, director of the Sheffield Scientific School of Yale University; John H. Long, professor of chemistry in the medical school of the Northwestern University; C. A. Herter, professor of physiological chemistry, College of Physicians and Surgeons, New York, and Alonzo E. Taylor, professor of pathology, University of California. Dr. Taylor has been absent in Europe and did not participate in the consideration of the question. Otherwise the report of the board is unanimous.

In presenting the issue the President submitted to the board two propositions, as follows:

1. Does food to which there has been added benzoic acid or any of its salts contain an added poisonous or other added deleterious ingredient which may render the said food injurious

to health? In large quantities? In small quantities?

2. If benzoic acid or any of its salts be mixed or packed with a food is the quality or strength of said food reduced, lowered or injuriously affected? In large quantities? In small quantities?

"To make this experimental inquiry as thorough as possible," says the report of the board, "and to minimize the personal equation, three independent investigations have been carried out, one at the medical school of Northwestern University in Chicago, a second at the private laboratory of Prof. Christian A. Herter of Columbia University, New York, and the third at the Sheffield Scientific School of Yale University.

"The same general plan of procedure was followed in all three experiments. A certain number of healthy young men were selected as subjects, and during a period of four months, these men under definite conditions of diet, &c., with and without sodium benzoate, were subjected to thorough clinical and medical observation, while the daily food and the excretions were carefully analyzed and otherwise studied and comparison made on clinical, chemical, bacteriological and other data collected. In this manner material has been brought together which makes possible conclusions regarding the effect of small and large doses of sodium benzoate upon the human system."

The board says that the fact should be emphasized that the results obtained from the three separate investigations are in close agreement in essential features. The main general conclusions reached by the board are:

First—Sodium benzoate in small doses (under 0.5 gram per day) mixed with the food is not deleterious or poisonous, and is not injurious to health.

Second—Sodium benzoate in large doses (up to 4 grams per day) mixed with the food has not been found to exert any deleterious effect on the health nor to act as a poison in the general acceptance of the term. In some directions there were slight modifications in certain physiological processes, the excess signification of which modifications is not known.

Third—The admixture of sodium benzoate with food in small or large doses has not been found to injuriously affect or impair the quality or nutritive value of such food.—*Press Despatch.*

American Medicine

FRANK CLARK LEWIS, M. D., *Managing Editor.*

PUBLISHED MONTHLY BY THE AMERICAN-MEDICAL PUBLISHING COMPANY.

Copyrighted by the American-Medical Publishing Co., 1909.

Complete Series, Vol. XV. No. 2.
New Series, Vol. IV, No. 2.

FEBRUARY, 1909.

\$1.00 Yearly
In Advance.

A school of sanitary science and public health is proposed as a part of Columbia University, and the preliminary report of the committee considering the problem suggests two courses of training, one leading to the degree of Public Health Officer and the other to Sanitary Inspector. There is not the slightest doubt that the establishment of this school will be one of the great advances in civilization. It is directly in line with the increasing specialization which is so essential for efficiency. It is finally recognized that it is wasteful of time and unnecessarily expensive to train a man in practical surgery and obstetrics if he is to devote his life to municipal sanitation, and these limited courses are as necessary as those for dentists. In addition it has been found that medical students have no time to devote to practical municipal work, and if they later enter the sphere they are not competent. Curing and preventing are vastly different specialties and need different training. This new movement should become widespread so that all cities will be able to obtain competent well trained servants to end the deplorable losses of health and life now known to be preventable.

The sanitary ignorance of engineers is the amazing revelation of the present

struggle to prevent further sewage pollution of New York harbor. The *Engineering News* has declared the movement to be "woefully misdirected," and it has also been stated that as the harbor is not yet saturated with filth we should go on pouring in more until it is full to overflowing—an opinion once held by physicians but abandoned as soon as they realized the present danger to life and health. A short while ago a few fussy enthusiasts declared that water pollution must cease, but now no physician dissents and this has become a fixed policy of all governments. Drinking water is getting too scarce and high priced. The opposition to the new sanitary engineering demanded by dense populations shows the necessity for some sanitary instruction of all engineers, no matter what branch of their profession they will practice. There are excellent courses already in existence for those who intend to specialize in sanitary engineering, and these men will be more and more needed to carry out the reforms of health officers, but it is increasingly evident that the ignorance of other engineers is a serious menace to public health.

Hazen's theorem as to the effects of pure water supplies, is much more than a theorem and it has opened up an entirely

new field for study. In a paper on "The Purification of Water in America," read before the Engineering Congress in St. Louis, in 1904, Mr. Allen Hazen stated that when public water supplies are purified, we not only prevent some typhoid deaths, but two or three times as many deaths from other diseases. In a preliminary note in *Science* (Aug. 14, 1908) Sedgwick and MacNutt have stated that the law is practically universal, and that following a purification of water, there is a reduction of the death rate from even tuberculosis and pneumonia, and of course the infant mortality is greatly reduced. The cause of this phenomenon is not known, but it is suggested that with pure water we avoid the loss of resistance due to constant slight infections not followed by marked illness. Perhaps also there is enhanced vitality from the purity of the water. At any rate, the advantage of pure water is not exactly the avoidance of special infections, but it is thus proved to be as necessary as pure food. Hazen's law is one of the most momentous discoveries of modern times and is bound to inject new life into the constantly increasing movement for sanitary decency—particularly in water supplies for large cities.

The vicious anti-vivisection crusade is being renewed with a view to the passage of one of the several quixotic bills designed to prevent abuses which do not exist. We have shown that the proposed laws will not only be useless for their professed purposes but will really interfere with medical discoveries. The only medical journal which has favored the bills, as far as we have been informed, is the *Medical Times* of New York, and it has done

so on the ground that "comparatively little further advance will be made along such lines,"—a confession that the laws will check this kind of investigation. Since that opinion was published, it has been shown that vivisection experiments have made typhoid inoculations practicable, and will be the means of saving untold thousands of lives, which would be sacrificed if the fanatics could have succeeded. Thousands of investigators are at work on similar problems and always will be, for we will never come to the end of knowledge. The anti-vivisection movement is practically the same as it was fifty years ago, and we may confidently predict that fifty years hence the same discussions will be yearly rehashed, so that public safety demands constant vigilance on the part of the profession to check these illogical people. The present year is no more and no less critical than every other, and it behooves all physicians to do their share to prevent the passage of the bills now before the legislature. We commend to every physician's attention the resolutions of the American Association for the Advancement of Science.

Scientific treatment of vagrancy is not to be expected in the immediate future, but a good beginning has been made. It is now suggested that laws be passed by the New York Legislature whereby tramps, drunkards and idlers without means of support, be confined in farm colonies. Unfortunately the underlying idea is that these human wrecks are able to work for their keep and should be forced to labor. As a matter of fact they are sick men, some of them chronically starved and incurably neurasthenic. That is the reason they are idlers—not from choice.

Denmark has solved the problem scientifically in self-supporting institutions. The beggar or tramp is arrested, and taken to the settlement where he becomes really a patient who receives careful study, is appropriately treated and given only such work as he is able to do. Quite a percentage recover and are released after positions are found for them. Some prefer to remain and their earnings accumulate; the incurables must remain.

The system has ended mendicancy and vagabondage and must be adopted here not only to restore wrecks to usefulness, but as a matter of economy. The railroads alone lose \$25,000,000 yearly through stealing or accidents due to tramps. Counting the crimes committed and the other losses, it would be cheaper to spend a hundred millions a year confining and curing idlers, than to allow the present orgie of crime to continue, though as a matter of fact the colonies would become self-supporting. Nothing can be done as long as public opinion holds to the delusion that idlers are simply vicious men needing punishment, a delusion as false as the medieval theory that the insane must be scourged and loaded with chains.

The bread lines in the city merely keep the patients alive and the system is as vicious as the imposition of hard labor on an anaemic, frail man with a weak heart and an exhausted nervous system which utterly prevents application. Though alcohol invariably complicates the picture, it is not the cause, but the result of a blind effort to get temporary relief

from intolerable misery. Let the bread lines be abolished and the men confined where they can be treated by physicians, and not given hard work which only makes them worse. The present plan to give them hard farm labor is brutal in the extreme, for it would kill many a well man. The Danish institutions have every conceivable industry—the farm being merely an incident. Our charity is still far from scientific, even though it is already highly “organized” with the view of restoring to self-supporting efficiency rather than relief of present distress.

The contradictions of the phthisio-therapeutists are becoming painful reading. Dr. Clarence L. Wheaton (*J. A. M. A.*, Jan. 2, 1908) states that most men recognize the ideal climate as one with the greatest possible amount of sunshine, but Bullock in such a place (New Mexico) states that the light is bad for consumptives (*N. Y. Med. Jour.*, Sept. 12, 1908). It is interesting to note that Bullock's opinion is based on modern observations but Wheaton quotes experiments published in 1876-7—a third of a century behind the times, and some years before Koch found the bacillus. Wheaton claims that elevation is necessary, as there are fewer “infusoria” and the breathing is deeper and more vigorous, while Dr. S. A. Knopf states that “for tuberculosis of the bones and joints and scrofulous affections of childhood, the seacoast climate in our temperate zones comes nearest to deserving the term *specific* than anything else,” on account of “the aseptic and ozonic quality of the air and the iodide and other salts suspended therein” (*N. Y. Med. Jour.* Sept. 12), but Carling of New York by

actual experience found that these little ones did better inland than on the coast. Wheaton cries out for a dry atmosphere, Knopf for one with "relatively little humidity," but physicians in rainy climates claim as good results as anybody else, and foggy London has a far less mortality than sunny Milan. Wheaton wants variability of air temperatures and Knopf objects to great extremes, some advise the equable temperatures of Southern California and others the extremes of the Adirondacks.

Evidence is needed for generalizations.

Wheaton pines for a "porous soil," though a porous plaster might be just as efficacious as far as any evidence presented. Knopf must have "much sunshine" and conditions permitting "patients to live comfortably out of doors," though much sunshine is decidedly uncomfortable and often drives patients indoors. In selecting cold or warm climates or the seashore, he is guided by the patient's feelings! Wheaton speaks of Colorado as ideal and that "the untoward effects of sunshine have not as yet been reported," whereas White of Colorado Springs had reported them long ago and so had Burton-Fanning. Knopf advises sun baths indoors to the naked body though he presents no evidence that they do any good, and some physicians give them out doors to patients heavily clothed, and the tuberculosis exhibit in New York city has dozens of pictures of patients taking these dark "light baths." It would be just as sensible to put on rubber garments before we get into the bath tub. There is the utmost need for more explanation of these seeming paradoxes of the phthisio-therapists, or the lay public will begin to suspect us of having

opinions not based on observed facts. The layman is now wondering why we killed consumptives indoors for forty years after it was observed that they could be saved out doors. He may hint that when we contradict each other one side is likely to be wrong and until he finds out which, he may ignore both. So let us have the proofs of all the above generalizations or the layman may side with the few physicians who are so bold as to state that tuberculosis is cured everywhere and there is no ideal climate. This would be a disaster, for it is well known that there is an ideal climate for each type or race—that to which it is physically adjusted.

For delightful naivete commend us the recent utterances of a learned physician when he wrote the following:

"I have not the slightest *doubt* that sodium benzoate (and especially the commercial article of synthetic sodium benzoate) taken in foods more or less continuously, will derange digestion and set up irritation and degenerative changes in the gastroenteric mucosa. Similarly, I have no *doubt* that copper salts will cause chronic nephritis and it is possible that pathologic changes in the blood and in the nerves *may* also be originated in this manner."

And this is science! Truly what crimes are committed in its name! One expects such weak, indefinite statements from the pseudo-scientist, but coming from a man of recognized ability, a physician who has made more than one valuable contribution to medicine, it is a sad commentary on the times. We wonder if the author of the above statement thought he was adding one jot or tittle to the discussion of food preservatives, or was aiding in the slightest the determination of the truth concerning

sodium benzoate. We cannot believe that he did, for he is blessed with more than ordinary common sense and acumen. No, it is only one more illustration of the unconquerable desire that possesses so many of our leading physicians to take part in the discussion of popular questions, whether they can add anything to the knowledge of the subject or not.

Such incidents are a reproach to the science of medicine, and doubly so when perpetrated by men to whom we look for something better. The gentleman in question has abundant resources and opportunities for studying the effect of sodium benzoate, or any other food preservative. His ability and standing would endow any statements of fact with particular interest. But when he essays to go on record and add his influence to either side of a controversial matter, he owes it to himself and the colleagues who hitherto have listened to him with respect, to offer something better than mere negative opinions. There have been too many "I suppose," "I believe," "I think" and "I have no doubt" contributions in medicine, and if the profession deserves reproach for any one failing more than another, it is just this particular one. It is about time we outgrew such weaknesses, and held our pens, as well as our tongues, until we had something to write or say worth while.

The demonstration of tubercle bacilli in the blood is not new, but this does not make any less important the far-reaching investigations of Rosenberger of Philadelphia. In the current issue of the *American Journal of the Medical Sciences* he makes what is probably one of the most valuable of recent contributions to the

study of tuberculosis. He shows quite conclusively that a bacteriemia is a fairly constant and early phenomenon of all tuberculous processes, and points out the very probable diagnostic value that this fact must ultimately have. If Rosenberger's work is confirmed, as it unquestionably will be, one does not have to be unduly sanguine to anticipate very substantial progress in the struggle with tuberculosis. As a practical technic is evolved, a much earlier diagnosis in many cases will be possible. This naturally means earlier and, of course, more effective treatment. But given a known and demonstrable bacteriemia, there appears another point for therapeutic attack, and it is pretty safe to predict that Rosenberger's studies will materially stimulate the search for a safe yet reliable systemic antiseptic. The blood has been looked upon as a comparatively sterile fluid, and it has been credited with extraordinary antiseptic powers. The accumulation of hematologic research is dissipating these views, and as a logical consequence, we may confidently look for the development of an artificial hemo-antiseptic that possibly will form the one weapon needed to combat successfully not only tuberculosis but other infectious diseases as well. Dr. Rosenberger deserves the most hearty commendation for his intelligent and painstaking investigations. It is in such work that one finds the strongest and most effective response to the altogether too frequent criticism of the medical profession.

The twin sins of the Twentieth Century are dogmatism and intolerance. Civilized man has always been guilty of over positiveness—that is why he has made

so many mistakes and has had to retrace his steps so many, many times. Of late the spirit "I am right, you must be wrong," has so possessed the American people that it bids fair to seriously interfere with our progress in every branch of human activity. "Believe with me,—or be damned," so characterizes the popular attitude on every controversial matter that we are fast losing our capacity for mental growth. All this is bad enough, but the worst feature of the whole situation comes from the hatreds and ill-feelings that are being engendered and allowed to fill so large a part of our lives.

The vaunted "brotherhood of man" is becoming almost a myth, if we are to judge from what we read; and yet, "it is the age of reform" we hear on every side. But is it? Can reforms and improvements in any line of endeavor possibly be accomplished, if they are undertaken in a spirit of vindictive animosity? We doubt it and the great problems of the day must be approached in a much broader and kindlier frame of mind, or we shall only substitute greater for lesser evils. Proudly we claim to be living in a Christian era, but how long before even these claims will be characterized as exaggerated or misleading?

Vituperation and malicious Attacks are poisoned darts which invariably do infinitely more harm to those who discharge them, than to those against whom they are discharged. No man who hopes to add ever so little to the sum total of human happiness or progress can afford to let the fires of hatred master him. A man can fight like a demon for his honor, home or reputation, or for his principles and belief. But when he stoops to malediction,

villification, and foul insult, he is lowering himself and sacrificing the very cornerstone of society, the respect of his fellows. The price one pays, therefore, for the last word in a warfare of invective is not only too high, but there are no discounts. The transaction, moreover, always shows a debit on life's profit and loss account.

Opinions opposed to the popular view on any subject are dangerous to express nowadays, for it is the age of intolerance and if one voices a conservative note, particularly in regard to foods, railroads, insurance, politics, proprietary remedies, or what not, he is pretty sure to be accused of standing in with crooked interests. At the risk however of bringing down upon our heads the slings and accusations of those who may differ from us, we are going to make a few comments on the food preservative question. We have no axes to grind, we are not striving to aid any one or any industry, and we ask no one to accept our views only so far as they appeal to common sense, and good judgment. The truth is what we are seeking, and we are not afraid of it, no matter in what form nor from what source it comes. This ought to be the mental attitude that every man should take in approaching any undecided question. Unfortunately, snap judgments, individual prejudices and other influences too often lead to a different state of mind. Still the good old world goes on, and in spite of bigotry, mistakes and ignorance, every day, every month and every year find the "children of men" a little nearer the ultimate truth.

The Referee Board who have been investigating benzoate of soda issued a report

last month that is almost diametrically opposite to the report of Dr. H. W. Wiley. The standing and character of the eminent men composing the Referee Board eliminates the slightest question in regard to the thoroughness and open-mindedness of their investigations. They were appointed to ascertain if possible the facts concerning the influence of sodium benzoate on the human body. Their investigations were pursued individually and their report represents the sum total of their respective findings. The unanimity of the report, backed by the character of the men making it, certainly demands respectful acceptance. No stronger evidence bearing on the subject could be obtained. But this does not mean that Dr. Wiley's work was or is valueless. In fact we have felt that his brief on benzoate of soda was the best that he has ever made. Laying aside its premature publication and other irrelevant details, the Government Bulletin on benzoate of soda is a notable contribution to the subject and deserves the most respectful consideration. That its premises are controverted or even proven wrong does not make valueless the careful painstaking work which it represents and records. It is part—and a valuable part—of the literature of the subject. Science is built up from conflicting opinions and no honest research, however erroneously interpreted, is ever wasted. Dr. Wiley's opinions based on his studies may be wrong, but his work has not been in vain, for it has created an interest and stimulated investigations that cannot fail to bring us nearer to the truth.

The question of food preservatives is bound to loom large for some time to come. The evidence to date points to the compara-

tive harmlessness of benzoate of soda. If manufacturers wish to use it they should be allowed to, always provided that a true statement of the quantity employed, be placed upon the label. Let the consumer then decide whether he prefers catsups, sauces, etc., kept sweet by .1 of one per cent. of benzoate of soda, or those that are indifferently preserved by an acetic acid extract of spices. An incident bearing on the controversy that would be ludicrous if it was not so significant may be mentioned in this connection. A well known manufacturing firm who have been exploiting Dr. Wiley's report in a way that demonstrates bad taste if not questionable judgment, place a high grade catsup on the market that contains no benzoate of soda. On at least six different occasions in a prominent down town club, freshly opened bottles have been so badly fermented or "spoiled" that their contents were not fit to eat. The same parties who underwent these experiences have been obliged, furthermore, to discontinue the use of this catsup for similar reasons, although it was preferred to all others. Can anyone hesitate between a sweet unfermented product containing only .1 of one per cent. of benzoate of soda, and one sour and fermented? Acetic acid fermentation forms one of the most prolific causes of gastro-intestinal derangement and one or two experiences on the part of the consumer will certainly make him prefer benzoate of soda to concentrated acetic acid extracts, with their essential dangers in this direction.

The statement is frequently made that our mothers and grandmothers never used any preservatives. This is untrue, for the good housewife did use the best of vinegar and the various spices in large quantities. More than this, in spite of the most care-

ful selection of her materials and the most careful cooking, it was a common experience to have the catsup, and chili-sauce "spoil," and require re-cooking. To get back to the fundamental question it seems, therefore, a fair proposition to allow manufacturers to use small quantities of benzoate of soda, if on no other basis than that of the lesser of two evils. Make them tell the truth about the quantity and let the consumer decide. Incidentally the Government should take a manufacturer to task as promptly for misrepresenting the keeping qualities of his products, as for sophisticating their ingredients.

The sodium benzoate question viewed from no matter what standpoint in its ultimate analysis to date justifies no other verdict than the Scotch one of "not proven." Dr. Wiley made the mistake of condemning too hastily on insufficient evidence, and we fear that the Referee Board have made a similar error though in the opposite direction. That neither Dr. Wiley nor the Referee Board have been able to produce absolutely conclusive evidence on either side of the controversy shows that while sodium benzoate cannot be considered absolutely harmless, any harmful action it may actually exert must be very slight and remote. This is only the reasonable, fair view to take. If manufacturers are able to demonstrate that they can provide satisfactory catsup and condiments that will "keep" without sodium benzoate, which we insist they have not done as yet, the public will assuredly support them and thus drive the preparations containing preservatives from the market.

In the meantime, we cannot refrain from condemning the wholesale fiction that is

being circulated to the effect that preservatives are unnecessary and that they are not being used. Dr. J. N. Hurty of Indianapolis, a member of the Indiana Board of Health, has expressed himself¹ very forcibly on this subject and says that he believes spices are even more injurious than is sodium benzoate. They are irritants, they are constipating and, by stimulating the appetite, they cause over-eating.

"For these reasons, catsup, Worcester-shire sauce, and all like sauces should not be used in our dietary, and it would be consistent with scientific knowledge for the pure food and health authorities to forbid their use. Now that sodium benzoate is forbidden in catsup, this article is preserved by an acetic acid extract of spices. Strong vinegar is percolated over a mixture of cloves, pepper, cinnamon, allspice, etc., and there results a strong antiseptic which is not less injurious, and probably more injurious to health than sodium salicylate or sodium benzoate.

"Formerly, in making catsup, the preserved spices were added direct to the tomato pulp, but in this way they do not exert the same preservative effect as in acetic extract. Cloves, too, contain benzoic acid and it must play a part in the preservation of foods treated with acetic extract of cloves."

Pure food we must and shall have.

—But in our efforts to obtain it, let us be sensible and practicable. Mr. Joseph Ruau, the French Minister of Agriculture, to whose initiative the French pure food law of 1905 was due is quoted² as saying:

"A law must stand or fall, not only by its text, no matter how precise and complete this may be, but also by the way in which it is applied, in conformity with the customs and usages of the country. The greatest merit of the (French) law of 1905 is, not that it is an engine of war against fraud, but that it represents the law of honest merchants, made in accord with them and for their use."

¹Jour. A. M. A., Jan. 30, 1909.

²Literary Digest Oct.

Mr. Ruau begged the Congress not to be "hypnotized by the attractive phrase 'pure food.'" He said:

"The question is one of normal purity, not of absolute scientific purity. We may talk theoretically of chemically pure food, but we can reasonably speak in practise only of commercial purity.

"The point of view of the technical student is much too narrow; only merchants can speak with authority regarding what should properly be named wine, milk, butter, or chocolate. Note that these can not possibly be rigorously pure; the essential thing is to see that they are not counterfeited or adulterated, and that, if they have undergone any sort of treatment, this should be conformed to the legitimate usages permitted in honest commerce. . . . What contradictions, what oddities would be imposed upon the commerce of to-day, if we should attempt to adopt the dogma of chemical purity!"

This is not reactionary, nor is it a plea for anybody. We want standards, straight every day standards that will be rational and practical. This is the duty of the Bureau of Chemistry, to establish plain, reasonable regulations that are justified by incontrovertible data and that while safeguarding first of all the public will yet work no needless harm on the manufacturers.

Is there a broad-minded physician or layman who will be willing to take any different position?

The fundamental spirit of our excellent National pure food and drug law is not punitive, but corrective and restrictive. Its execution along wise, sensible lines will make it constructive in more ways than one, and this after all is the common ground on which all honest men should be able to meet and join hands.

A lesson should be gleaned from the benzoate of soda controversy. This is, that the last word has never been said on any subject. In scientific matters there is

always the possibility of error, so that one man's views, or the views of a group of men do not settle any question for all time. Investigators can hold divergent opinions and not be venal. Furthermore, an honest expression of opinion even though it helps some commercial enterprise does not imply subsidization. A little more confidence and a little less suspicion are urgently needed in our relations with each other, or our fair country is sure to suffer. Faith in the innate honest of humanity and charity for the mistakes of our fellows are two splendid assets. If the American people can only realize this before it is too late there will be no limits to their ethical, scientific, and commercial success. But if they do not, and present day tendencies grow and prevail, we shall soon be a nation of Ishmaelites.

Dr. S. Weir Mitchell celebrated this month the eightieth birthday of an unusually rich and productive life. It is given to few men to shine conspicuously in two over-crowded fields of endeavor, yet Dr. Mitchell has won a place in both science and literature that will endure long after he has answered the final call. If any American physician or man of letters ever offered to the world at large a real inspiration to work, it is Weir Mitchell. His life has been a combination of talents, scholarly ability and industry, with the result that his achievements will stand forth like beacon lights for many years to come. Long will he be remembered also for his unpretentious yet charming personality—suggestive of the strength, depth and quiet force of some great deep-flowing river.

Then here's to you, Weir Mitchell on your eightieth anniversary. We salute you, because we love and esteem you. The world is better because you have lived and have given to mankind so much of your thought and effort. May time continue to deal kindly with you, and leave you with us many, many years.

ORIGINAL ARTICLES.

THE SYMPTOMS AND DIAGNOSIS OF
INCIPIENT TUBERCULOSIS.¹

BY

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The definition of incipient tuberculosis adopted by the National Association for the Study and Prevention of Tuberculosis is as follows:

"Slight initial lesion in the form of infiltration limited to the apex of one or both lungs, or a small part of one lobe. No tuberculous complications. Slight or no constitutional symptoms (particularly including gastric or intestinal disturbances or rapid loss of weight), slight or no elevation of temperature or acceleration of pulse at any time within the 24 hours, especially after rest. Expectoration usually small in amount, or absent. Tubercle bacilli may be present or absent."

I purpose in this paper to consider how the condition, as formulated in this definition, of beginning or incipient tuberculosis, can be detected. Though I shall dwell mainly upon the means which are ordinarily within the scope and the abilities of the general practitioner, I shall essay also a comparative estimate of several somewhat technical procedures which have recently been evolved.

We begin the history-taking with the ancestry of the patient. Heredity is a very

decided factor. The disease itself is rarely transmitted, but consumptive patients can and do often transmit a tissue soil congenial for the growth and propagation of the Koch bacillus and its allied micro-organisms. The family history must be detailed. There may have been scrofula among brothers and sisters; or relatives may have died of tuberculosis.

The patient's previous history must be studied, from birth. Has he at any time contracted an exhausting disease, such as pertussis or measles, grip, malaria, pneumonia or especially pleurisy? Has he at any time had bone or joint or glandular disease; has there been rheumatism? Have his upper air passages been unhealthy; have there been adenoids and diseased tonsils? What is his age? Tuberculosis prevails most between the fifteenth and the forty-fifth year. Has there been a neglected cold? What have been his mode of life and his habits, especially regarding alcohol and tobacco? Has he been dissolute to an enervating degree? What has been his environment; has he been in want, or starving, or in grievous mental distress? Has his home been unsanitary? Has his occupation (such as a dust-producing or a confining trade) predisposed him to tuberculosis?

A systematic and routine examination of all the organs and functions must follow, as in general medicine; we are all familiar with such procedures. The point is that here, more perhaps than anywhere else in practice, no detail should escape us; nowhere else is the definition of genius as an infinite capacity for taking pains so appropriate. The lungs will receive particular attention because most cases of tuberculosis are first manifest in these organs. But a primary tuberculous focus may be pres-

¹Read before the Medical Society of the Bronx and the Eastern Medical Society.

ent in any part of the body; and should be discovered if possible. The pulmonary affection is oftentimes, perhaps generally, secondary to such a lesion, which may be found in the upper air passages, the alimentary tract and the organs related to it, the genito-urinary apparatus, the bones, the joints, or in fact any tissue in the economy. Hoarseness, habitual nose-bleed, hypertrophied tonsils, adenoids, a swollen thyroid, or enlarged cervical glands may be suggestive. Fistulas and ischiorectal abscesses are often tuberculous.

Digestion is easily impaired in incipient tuberculosis. Hyperchlorhydria, anorexia, eructations, epigastric distension and distress after meals, alternating constipation and diarrhoea—if these symptoms have defied treatment tuberculosis must be sought, especially if there be also loss of weight and strength, unwonted fatigue and dyspnoea on exertion.

The nervous system may be disordered. "Lack of ambition," "not quite up to par," "no energy," "run down"—such phrases as these may mislead us into an erroneous diagnosis of neurasthenia. Soon these observations may assume the unmistakable psychism of the tuberculous—irritability, loss of will-power and of self-restraint, weakmindedness, and profound depression changing upon the moment to an unreasonable degree of optimism.

There may be a cough—very slight to begin with, manifest only on rising, perhaps denied or not easily recalled. Usually it is the dry cough of the German proverb (Trockner Husten, Toder Trompeter)—harsh, paroxysmal, with not enough expectoration for examination. Or small masses of clear mucus may appear, which later become foamy, viscid, glairy,

and dotted with minute firm granules and finally with yellow spots.

Pain really due to tuberculosis may give an erroneous impression, as of a neuralgia, or a peripheral neuritis, an arthritis or a rheumatism, an abdominal lesion, a myelitis or a progressive muscular atrophy.

There may be a vague sense of discomfort in the thorax; or pain, especially in the apices, may be elicited on deep breathing. Pain in the intrascapular space would suggest a tuberculous process in the trachea, the thoracic duct or the bronchial glands.

The temperature should be taken (carefully observing the technic of temperature taking) by the mouth, during rest, every four hours, or better still, every two hours, for several days. There is a normal range of half a degree above or below the index during the 24 hours; there would be a temporary rise after exercise or after meals, while in the tuberculous such a rise would persist. The consumption temperature is generally above the normal, especially toward night; it may be subnormal in the morning. A persistent rise of one degree should make one suspicious. The fever may be accompanied by malaise, flushing, and such a sensation of warmth or chills as may be attributed to malaria.

Profuse perspiration, especially at night, is very pathognomonic; like most of the general symptoms of the disease this sweating is due to the dissemination throughout the organism, by means of the lymph and blood channels, of the poisons generated in the tuberculous process.

In women frequent parturitions resulting in physiologic poverty, prolonged lactation, sinking spells, and inanition are

predisposing factors. The fever of tuberculosis is high during the menses, although in many women a slight rise is normal at this period. The flow may be absent, a condition generally obtaining however, only in advanced tuberculosis.

Bodington and Brehmer held the small heart (embryocardia) to be pathognomonic and most subsequent observers have agreed with them. Such a heart, however, is very difficult to diagnose; some declare this can be done only on autopsy. The apex heart beat—a feeble one—would approach a centimeter nearer the midsternum than the normal; and the beating of the undersized heart has been observed by means of the fluoroscope. The congenitally small organ is accompanied by an aorta and vessels correspondingly small; and the nutrition of the whole economy suffers accordingly. In addition to the size, other cardiac defects may suggest tuberculosis. There may be congenital stenosis of the pulmonary orifice; this is, however, seldom seen in adults, for the reason that such sufferers do not live much beyond childhood. The pulmonary second sound may be reduplicated or accentuated. There may be a mitral lesion, such as would result in deficient tissue-oxygenation, a condition inviting germ implantation. It is held, however, that the pulmonary blood stasis consequent upon valvular lesions is inimical to the growth of tubercle bacillus.

A persistently rapid, small, weak, low pressure pulse, above 100, having its note unmodified by position, and which is not associated with any other well-defined disease, indicates tuberculosis; this pulse is due largely to the infective process. A hemoptysis strongly indicates tuberculosis; the disease is generally past its incipency when this occurs. We must, however ex-

clude hemorrhage due to nose-bleed, to ruptured vessels in the upper air passages, to easily bleeding gums, gastric ulcer, splenomegaly, aneurism, or to pulmonary infarcts occurring with mitral stenosis.

Examination of the blood itself has not produced anything especially pathognomonic of tuberculosis; however, other diseases in which the blood findings are characteristic have been excluded by this means. Anemia and chlorosis are predisposing affections.

In the physical examination of the lungs, as elsewhere, no detail must escape detection. We suspect usually a lesion at the right apex, and the observations which follow apply to this region; but there may be tuberculous foci at the base of a lung, or in the axillary region, or indeed in any part. The two sides and corresponding areas must be compared, during the same stages of the respiratory act, using the blue pencil to indicate suspected lesions. The patient should assume the erect posture, be stripped to the waist, and all the muscles concerned in respiration should be relaxed. Women may be seated upon a revolving stool.

On inspection the condition of the skin must be noted—whether it be thin, pale and transparent, with the superficial veins prominent; or oily, or pasty, or unduly dry and hot, or moist and hot or erythematous; whether there be an objectionable odor; whether the features be drawn and cyanotic, as in mouth breathers. The extremities may be cold and clammy. The patient may appear quite well nourished; on the other hand the relation of height to weight (normally 25 for males and 23 for females) is likely to be low. Mydriasis; the hectic flush; the hair dry and lusterless, split at ends and easily falling

out; the clubbed finger-tips and incurvated nails; unduly reddened margins of the gums—these symptoms, though characteristic of postinfectious conditions may be present. Scarring, especially about the neck, may denote scrofula or tuberculosis healed in childhood; lymphadenomas may be of a tuberculous nature. The shape of the tuberculous chest has been variously described as round, flat, long, narrow, shallow, deep, large and small; Bessesson has probably correctly characterized it as "narrow, tending to the rounded form, with a relative elongation." Egan computes the thoracic perimeter as the circumference of the chest during forced expiration. The result, divided by two, should normally not be less than one-half the patient's height.

Dilatation, contraction, or local depression in the chest wall must be sought. The clavicles may be unduly prominent, with corresponding contraction beneath them; this condition will become progressively marked with the development of the lesion at the apex. The acromion may be higher than the sternal end of the clavicle; there may be winged scapulas and spinal irregularities, especially in the young. The intercostal spaces and angles are likely to become accentuated and to emphasize the general emaciation. The romantic type of those predisposed to tuberculosis—the long neck, stooping shoulders, pallid skin, and thin, tapering fingers—may be in evidence.

There may be inequality of chest expansion, respiration may be frequent, quite shallow and obviously insufficient; expiration may be unduly prolonged; the breathing may be retarded, or irregular over affected areas, especially the apices; the respiratory movements may be painful. The "streak diagnosis" has to do with the ap-

pearance of dilated, deep red or bluish capillaries in the skin over the apices. Fränke found this phenomenon in three-quarters of tuberculous cases in various stages, and in one-quarter among healthy subjects. It is therefore not a conclusive sign. Litten's shadow may show restricted diaphragmatic excursions due to pain or to pleuritic adhesions and in females a typical superior costal respiration is modified early in tuberculosis, so that it comes to resemble the masculine abdominal type.

Palpation may detect inequalities of chest expansion not found on inspection. Vocal fremitus will be increased over an affected area. Pleural fremitus may be evident over dry pleurisies, especially in the axillas. Bronchial fremitus is a valuable sign, often evidencing tuberculous bronchial glands, a condition often preceding tuberculosis of the lung parenchyma.

Percussion will not elicit dullness in incipient tuberculosis; the disease is pronounced when dullness appears, as a consideration of the pathology of tubercle formation in the lung will demonstrate. With a light but firm stroke, the finger upon the chest being made, as it were, a part of the patient's body, a note characterized as a vesiculo-tympanitic or semi-tympanitic, with heightened resonance, may be elicited. There may be compensatory emphysema in parts surrounding the area involved in tubercle formation.

Auscultation of breathing is very important. Respiration may be retarded or restricted over the affected area; and to a lesser degree also over the unaffected side. Here one may corroborate or emphasize observations made on inspection. One should study in detail inspiration and expiration; the former is likely to give signs concerning the alveoli, the latter concerning

the bronchi and its ramifications. Expiration, normally prolonged in the relation of 6 to 7, is likely to be still further prolonged; and its pitch may be elevated. The intensity may be diminished over a contracted area; but upon deep respiration it may be increased. The rhythm may be interrupted, suggesting coarse changes; or there may be a rapidly succeeding series of short puffs, especially during inspiration, indicating a number of small and isolated tuberculous foci. There may be cogwheel respiration, due to impaired vesicular elasticity and perhaps also to weakening of the external respiratory muscles. The quality of the breathing may be rude or rough; this may be the earliest sign of pulmonary tuberculosis, and is due to slight inflammatory changes in the bronchioli, the air traversing uneven surfaces and slightly narrowed lumina. As the case develops beyond incipency the breathing will become bronchial or tubercular; but by this time marked consolidation will have supervened.

Auscultation of voice and whisper will show the intensity of vocal resonance to be increased and the pitch to be raised at the site of the tuberculous process; this sign may be emphasized by coughing.

There may be no rales whatever, or they may be found at one examination and lost at another. They may be present on damp days or in the early morning, and absent on dry days. Coughing may elicit them. Potassium iodid may bring them out; three or five grains may be exhibited for several days to this end. There may be a few crackling or squeaking rales over an area of altered resonance, especially during or at the end of inspiration. Or there may be fine bronchial clicks which will disappear on coughing or deep breathing;

these are characteristic of a localized bronchitis. Pleuritic friction sounds, atelectasis and evidences of small exudates at the posterior bases must be differentiated.

One may get no pulmonary signs at all, for the simple reason that the initial tuberculous process may not be in the lungs. Among the diseases with which tuberculosis is oftentimes confounded are syphilis, grippe, malaria, bronchitis, plurisy, pneumonia, typhoid fever, osteomyelitis and streptococcus infection.

The sputum, if there is any, must be repeatedly examined for the Koch bacillus; it may be centrifuged for this purpose. But the examinations may be negative, as we will easily comprehend from a consideration of the pathology of incipient tuberculosis. There may be quite considerable tubercle formation before the bacillus can appear in the sputum; for tubercles must caseate and break down, voiding their bacillus-laden contents into an adjacent bronchiole or bronchus, before the expectoration will give evidence of the germ. A positive finding, of course, settles the question; but a negative finding means very little indeed, and should have no weight in the diagnosis.

Tuberculin is applied in at least five ways for the diagnosis of incipient tuberculosis: (a) The familiar one by subcutaneous hypodermatic injection; (b) The conjunctival, known also as the Calmette or the Wolff-Eisner or the ophthalmo-tuberculin test; (c) The von Pirquet test; (d) The Detre procedure; (e) The Moro test.

In the subcutaneous method Koch's Original Tuberculin (O. T.) is used; this is a glycerin extract of tubercle bacilli. In non-tuberculous subjects an injection of 0.25 c. c. induces a severe reaction, 0.01 c. c. produces no reaction. In the tuberculous

reaction occurs with 0.001 c. c. and declares itself within four or five hours by general symptoms—a rise of temperature usually after a preliminary chill, to 100 F. (from 102°-104° may be reached), pain in the limbs, weariness, cough, often nausea and vomiting, occasionally cerebral aberrations; these symptoms endure about half a day. Local reactions are redness, swelling, exudation; internally, there are rales from pulmonary foci, increased resonance with perhaps a vesiculo-tympanic note or even dullness, cough and expectoration and perhaps bacilli in the sputum. In nervous patients a preliminary injection of the diluting solution (but containing no tuberculin) is desirable to determine a possible suggestion reaction fever. After this the doses begin with one-tenth of a milligram (.0001 c.c.); and after this come doses of .001, .002, .003, or .005 c.c. A final dose of .010 may perhaps be given if no reactions at all have occurred with the smaller doses. Children under fifteen should receive one-half to one-tenth of adult doses. There should be two or three days' intervals between injections and they should be administered preferably in the evening. The patient's temperature should have been taken for some days before the test; and it should again be taken during several days after. The technique of the conjunctival test is as follows: The patient's head is tipped well back; the under lid is supported for half a minute with the finger after the diluted tuberculin is dropped between the lids which should not afterward be rubbed. A freshly prepared one per cent solution of Koch's old tuberculin (O. T.) in 0.8 salt solution ("normal salt"); one drop is placed in the eye with a small glass pipette or dropper; or two solutions are now made; one-half of

one per cent and one per cent. Many prefer to begin the test with the former by reason of the excessive reaction which they fear with the one per cent solution. With a second application of the test, it should be instilled in the other and not in the same eye as the first application. In a positive conjunctival reaction this membrane will after six to twenty-four hours, begin to redden; in reactions of the "mild grade" nothing more is to be noticed; in reactions of the "second grade" the redness is more marked and there may be muco-fibrinous exudate; in reactions of the third grade there are all the appearances of a severe conjunctivitis.

The technique of the cutaneous test is as follows: The skin is first rubbed with alcohol, the scarification need not be extensive—hardly more than a point; it may be made with a lancet or a needle or any other sharp instrument, as when we vaccinate; we should if possible not draw blood. We may scarify through a drop of tuberculin previously placed upon the skin; or the latter may be applied after the scarification is made. A twenty-five per cent solution of Koch's tuberculin (O. T.) is made for this purpose. Central vaccinations with sterile normal salt solution or with glycerine and carbolic acid solutions in the strength obtaining in the tuberculin (5 per cent and 0.1 per cent respectively) should be made, preferably with a separate lancet. In the positive cutaneous reaction a reddening appears after a few hours, usually reaching its highest intensity between the twelfth and the twenty-fourth hour; it may be moderate, marked or excessive, disappearing within two days or lasting for weeks; besides the hyperemia there may be exudation and infiltration, causing the formation of a palpable papule

Dr. Ladislaus Detre has devised a modification of the von Pirquet procedure, which consists in applying to the skin, at the same time, three different substances: (a) Concentrated old tuberculin; (b) filtrate of a culture of human tubercle bacilli; and (c) filtrate of a bovine culture. The reaction to human or bovine toxin should be determined under the following conditions: (a) To confirm a difficult diagnosis and answer certain hygienic questions in regard to infection carriers and the mode of infection (inhalation or ingestion); (b) In the study of the question of the dualism of the tubercle bacillus, cattle react much more vigorously to bovine than to human filtrates. (c) To answer the question in regard to the origin or type of the bacillus or tuberculins (or filtrates), which can be done in from 24 to 48 hours by selecting the test individual according to his reaction to human or bovine tuberculin. (d) When it is desired to immunize a patient for therapeutic purposes to the toxins of both types of bacilli.

The Moro tuberculin inunction is recommended to be used as follows: Koch's tuberculin, 5 c.c. is incorporated with anhydrous wool fat, 5 gm. A piece the size of a pea is rubbed into the unbroken skin of the chest or abdomen for half a minute over an area four inches square. In twenty-four hours, "or later," small papules lasting about a week should indicate a positive reaction. This method is recommended to be entirely harmless, and to be quite as conclusive as the conjunctival or the von Pirquet test.

In what way these tuberculin reactions come about, opinion is here not quite unanimous. Wolff-Eisner submits the following theory of their mechanism: Individuals with tuberculous lesions have

all the time in their blood bacteriolysins to the tubercle bacillus (bacteriolysis is the process in which bacteria are killed in the blood serum; the bacteriolysin is the substance in the serum which accomplishes this destruction; a bacteriolytic serum not only kills, but it also dissolves the bacteria). All tuberculins contain at least fragments ("splitter") of tubercle bacilli; when these come into contact with the patient's bacteriolysins, endotoxins are set free from these fragments of bacilli (splitter) and cause the phenomena of the reaction.

These phenomena are the result (to put it in another way) of "a specific reaction on the part of the tissue cells in response to the chemical injury produced by the bacteria or their toxins." And it is upon such bases as this that we must consider the comparative value of the tuberculin reactions here set forth. The subcutaneous tuberculin reaction, when it is positive, generally indicates an incipient or latent tuberculosis; such is also the case with the cutaneous reaction, which latter is especially valuable in children and in gland and joint tuberculosis. But both these tests must most emphatically be understood to be subsidiary to and corroborative of other diagnostic views; it would indeed be abhorrent to common sense to seek to establish a diagnosis of tuberculosis from either of these, alone and unsubstantiated by other data. In well-developed and in advanced cases neither the subcutaneous nor the cutaneous test is likely to be positive, and this undoubtedly for the reason that the bacteriolytic or immunizing forces within the patient's body are so spent that reaction to the injected or inoculated tuberculin is no longer possible.

The conjunctival reaction should rarely be used; as a test of the presence of tuber-

culosis in the system it is as often as not erroneous. Besides, these reactions are oftentimes unfortunate; severe conjunctivitis, keratitis and even graver eye affections have been reported with at least disconcerting frequency. Concerning the Detre procedure there are not yet sufficient data upon which one may base a conclusion. The Moro test seems quite inconclusive. With regard to all the various tuberculins now used for diagnostic purposes, we must constantly remember that they are not as yet standardized. This fact may to some extent at least, explain how one observer has used the conjunctival test in hundreds of cases without untoward results, and how among another's first ten cases, he has found results almost disastrous to the orbital region.²

Other diagnostic means are:

²Randle C. Rosenberger, of Philadelphia, in a most important paper (*Am. Jour. Med. Sci.*, Feb., 1909), sets forth his demonstration of tubercle bacilli in the blood of fifty patients by the following technique: 5 c.c. of blood are withdrawn from a vein of the arm, and then immediately placed in an equal quantity of a 2 per cent. solution of sodium citrate in normal salt solution; this mixture is well shaken and placed in a refrigerator for twenty-four hours, at the end of which time there is an abundant sediment, with the citrate solution slightly turbid. A quantity of the sediment is then pipetted off, a rather thick preparation is made upon a new clean glass slide, dried upon a copper plate with moderate heat, and then placed in distilled water until complete laking of the blood results. Only a thin film then remains; this is dried and fixed through a Bunsen flame, and then stained by the usual technique for tubercle bacilli. By this method the tubercle bacillus was demonstrated in every one of Rosenberger's fifty cases, of which 5 were diagnosed as acute miliary tuberculosis; 2 as fibroid tuberculosis; 1 as pneumothorax; 15 as incipients (in which the bacillus was demonstrated in the blood before it was found in the sputum); 23 as moderately advanced tuberculosis; 3 as laryngeal tuberculosis; and one case in which the blood from the umbilical cord of a placenta delivered from a tuberculous mother was examined. In a footnote Rosenberger states that up to January 15th, 1909 he has studied 125 cases, in all of which he detected tubercle bacilli. He holds tuberculosis in all its form to be a bacteriemia.

Skiagraphy may be useful as a corroborative means, particularly when bronchial and vocal fremitus are manifest. One finds quite remarkable some photographs taken by Dr. L. Gregory Cole, in which the bronchial glands about the roots of the lungs are markedly involved whilst the apices are perfectly clear.

In *inoscopy* exudate (generally pleural) is coagulated by heat, the coagulum is then digested and centrifuged, and the product is injected into a guinea pig. If this animal becomes tuberculous, the diagnosis is positive. Sputum is also inoculated into guinea pigs; but the diagnosis cannot by this means become established for three or more weeks. There is the cyto-diagnosis by means of the pleural effusion; in tuberculosis there will be a predominance of mononuclear leucocytes. There is the agglutination test of Arloing. But in tuberculosis this procedure will not be found as satisfactory as in typhoid; for the growth of the tubercle bacilli is slower and these latter tend naturally to group. There is a diagnostic means in the proteolytic fermentation of exudations: The exudate to be examined is brought upon coagulated albumin (sheep or bovine serum); non-tuberculous exudates effect a dissolution of the albumin through peptonization as a result of proteolytic fermentation; whilst tuberculous exudates and tuberculous pus do not cause the albumin to liquify.

It must now be obvious that to reach a diagnosis of such a condition as incipient tuberculosis is no easy matter, yet it is of the greatest importance that such a diagnosis should be made; and this by the family physician. It is upon him that the brunt of the fight against tuberculosis must fall; it is with him that the failure or the success of his fight must lie. Most pa-

tients come first to him for consultation; and oftentimes when they may be cured, if the disease is recognized. Every man in general work, therefore, should be a specialist in tuberculosis; for this is by far the most frequent disease he has to deal with. Regarding few others will intelligent and timely action bear so much good fruit and so much profitable gratitude from the patient and the patient's friends. Nothing else will so greatly enhance the general practitioner's reputation. On the other hand, in no other circumstance of practice will the tragic results of erroneous, or possibly careless diagnosis be visited so disastrously upon him.

I have tried in this paper to outline a diagnosis which can be made by the means which we have all of us readily at hand. Apart from the data here presented there are I think three traits essential in the examining physician—the selective faculty, good judgment and intuition. We must collect the symptoms by careful note—taking all the ascertainable facts in a given case; else no reliable scientific deduction is possible. For this an hour is none too long a time. We must then survey broadly the whole case history and must be able to discriminate between essential points and such as have a bearing upon the question. Then we must reach conclusions from a judgment of many factors, one among these might be irrelevant; several of them taken together would be suggestive; a number of them combined would be conclusive. Intuition is supposed to be a peculiarly feminine mode of thought; but it is not to be sneered at, by any means. Nor it is always the man with the greatest knowledge who makes the most correct diagnosis. Richardson, in another—the surgical—field, has emphasized most wisely

the value of insight as a help in diagnosis. In one of his examinations at the Harvard Medical School he asked his advanced students to give the diagnosis in certain carefully described cases taken from his note books. In some of these cases there had been much difference of opinion among the most experienced physicians; yet some of the students, interpreting the histories properly and drawing the correct conclusions, gave invariably the right answers. Many of these successful students did not show the learning of others who generally reached wrong conclusions. "The students," declared Richardson, "whose deductions were in every case correct will without question make more successful practitioners than the students who, exhibiting much more learning, picked out the unimportant features in the histories of the cases, and on these unimportant features based correct deductions, which were as to the real lesion, always wrong," and he justly emphasizes, as requirements of the successful diagnostician, "the power of grasping the essential features of a case, and of basing, on such evidences, conclusions almost invariably correct."

Finally, it may not be possible to reach a diagnosis upon the first examination. Then the patient must be told so frankly and he must be kept under observation for weeks or perhaps a month, until a definite conclusion can be come to. The most skilled physicians must sometimes follow this course. Nevertheless the patient will certainly be disappointed. He will come, probably in the greatest anxiety, wanting a decisive answer to the question, "have I or have I not consumption?" He will not understand why what appears to him a simple matter cannot be ascertained at once. He will not comprehend the ex-

aminer's difficulty. Therefore, whenever possible, a diagnosis should be reached after the first examination; and generally it can then be made. If the first man doesn't make it, another man will.

DISCUSSION.

Dr. G. R. Satterlee said Dr. Huber had brought out the most important things in making the diagnosis of tuberculosis. There were times when some other method than a careful physical examination was needed. There were cases where the tuberculin tests were justified. One detail of diagnosis had not been mentioned by Dr. Huber. It was the blood count. He was prejudiced against the ophthalmic test, as he had not had good results. In a case which was diagnosed as *Hodgkins* disease, where 1% solution had been injected into the eye, there had been reaction in 4 hours, and in 16 hours a very severe reaction, which finally resulted in a serous iritis, and spoiled the girl's vision. This had occurred in hospital work, and as far as could be told the eye had been normal. From what the oculist had told him since, Dr. Satterlee was quite sure that the eye had been tuberculous; there had been no way of telling this however, and later on the other eye took on the same condition, without an injection. Another case where injection was made resulted in panophthalmitis; the patient had congenital syphilis. He then looked up several cases where there had been syphilitic infection of the eye which had been cured; injection brought it back. Regarding other methods, the tuberculin sub-cutaneous test is not a convenient one and apt to cause serious reaction, but tuberculin vaccination, in general practice, had given positive reaction in 88% of cases. In none of his cases had he thus far obtained reaction where tuberculosis was not suspected.

Dr. Harrows said that he thought in all the tuberculin tests given by Dr. Huber and Dr. Satterlee the Moro test had been omitted. This consisted of inunctions with a 50% ointment of tuberculin. He did not, however, think it a reliable test, as he had tried it in 12 cases and gotten reaction in only 8. It manifested itself in a papular eruption of the skin. He had used the Calmette test on 700 cases in the Health Department Clinic and had had but one bad result. Of these cases 142 had been confirmed by sputum examination. There were 87% of reactions. As to the skin test, the Von Pirquet, as Dr. Huber pointed out, it would give reaction in incipient cases with tolerable certainty.

Dr. H. M. Stark said he thought that in the past three months the medical fraternity had heard enough about tuberculosis to hold them for the next 3 years. The medical societies, the medical papers and the street car signs had all flaunted tuberculosis before our eyes. Personally, he was not so sanguine as many of the tuberculosis experts in regard to

the present-day sub-cutaneous or conjunctival reactions; he believed we were in a stage of over enthusiasm, too often characteristic of the modern physician. It was a well known fact, he said, that whenever something new and novel was introduced it would be grasped as a drowning man clings to a straw. A great many years ago when Koch introduced tuberculin it was employed all over the world and men found it a panacea, but in 1909 the method has been abandoned and the same enthusiasm no longer obtains. He believed it required moral courage to say we were over sanguine. When one considers that in a great majority of cases one gets a positive reaction by the sub-cutaneous method in other diseases than tuberculosis, it opens one's eyes to the value of it. He spoke of an article which had appeared in the last few weeks which he thought gave the best resumé of the question he had yet seen. It was a composite picture of the experience of 9 physicians. In digesting the article one could not help thinking that these methods had certain par values in connection with other methods. In the report it was stated that in normal subjects clinical reaction was obtained in only 40% of the cases. He believed that these methods of diagnosis should not supersede careful physical examination.

We could tell more by a good physical examination, but unfortunately all were not capable of making it. Is it wise to sentence a person to tuberculosis simply because one gets a positive reaction? He thought our medical students should devote more time and attention to physical diagnosis.

Finally, despite all these newer methods we still to-day have no positive means of making a diagnosis of incipient tuberculosis. No matter how far the physician goes into the family history of a patient, if negative instead of positive physical signs are obtained he should not be condemned to tuberculosis. Dr. Stark said he had used all these tests in a large number of cases, and whether the results were positive or negative, he had never been sure of his ground. Regarding bacteriological examinations, he thought we must confess our utter helplessness. Tubercle bacilli will not be found unless you have tuberculosis, but you may have tuberculosis and not find the bacilli.

Dr. H. Climenko said that the tuberculin injections were being largely used in America in the treatment of tuberculosis. He had understood Dr. Stark to say they had been given up.

Dr. W. Freudenthal said that in experimenting on animals he had found that the infection went through the lymph channels, passing the mouth and throat; he had often found the lingual tonsil infected. An investigation commenced a few years ago by Dr. Behring seemed to corroborate this theory. He injected tuberculous bacilli into the intestinal tract.

In Closing Dr. Huber said that Dr. Freudenthal had made a very important point with regard to lingual tonsil in incipient tuberculosis. He had neglected to mention the inunction test. He had had no practical ex-

perience with the agglutination test; he had understood that it was not as valuable as in typhoid fever. As a matter of fact, before the present era in the treatment of tuberculosis every third or fourth adult had died of tuberculosis. According to statistics, under the influence of Koch and others the death rate in the last decade had been reduced 40%, in Boston it had been reduced 50%, and in New York to 45%. In England Bushrow, who has been a most energetic and hard worker, has found that so much work has been done there that if the death rate decreases in the same ratio in that country, in 30 years from now as definite control of tuberculosis will be the rule, as now exists in regard to smallpox and leprosy. If the present propaganda continues in this country with the same force as has been manifested, in 15 years tuberculosis will also be as rare as these diseases.

Again, he thought it wrong to admit our helplessness in diagnosing incipient tuberculosis. The patients themselves often make the diagnosis. It is not well to say to patients that we do not know; we should find out. No one detail of those set forth can be conclusive; judgment must be made on the manifold factors that each case presents. As far as can be made out, tubercle bacilli get to the lung parenchyma by ingestion or inhalation, through the upper air passages, through the glands of the neck, through the heart, then to the lung parenchyma. In the same way the bacilli of tuberculous cattle probably enter the lung parenchyma.

INFLUENZA AFFECTING THE UPPER RESPIRATORY TRACT.

BY

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The upper respiratory tract is commonly the part most affected in the various attacks of influenza, so much so that it has been classified as one of the types. The other class of cases affecting the gastrointestinal tract as well as those of the nervous system rarely escape without some involvement of the nose and throat.

This fact can only be accounted for by the mode of entrance of the germ of the disease, showing that it must be dissem-

inated through the atmosphere and inhaled.

These germs settle on the mucous membrane where some remain, some are absorbed, and some penetrate or enter the circulation, invading other parts, weakening the system and thus allowing the streptococci, staphylococci, pneumococci, and other pyrogenic germs to propagate.

In 1892 Pfeiffer, son-in-law of Koch isolated this germ, a small rod-like bacillus known by his name, which is found in the sputum. Inoculation with it has failed.

The disease has as its principal characteristic, catarrhal lesions of the upper air passages. Sometimes it appears as a simple cold, but in most cases as a coryza, more or less intense, with reddened nose, loss of smell, lachrymation, feeling of fullness about nose and throat, frontal headache, with involvement of the trachea and bronchi, pain in back and limbs, pyrexia, a general lassitude or marked depression, with loss of appetite, hoarseness, and a severe, persistent, rasping cough. On the second day a thin watery secretion appears, and on the third, a profuse greenish yellow expectoration takes place and at the same time the rales appear in the chest from the extension of the disease.

The temperature varies from 100 to 101 in mild cases to 105 and even 106 in very severe ones.

The appearance of the nasal mucosa is usually one of severe congestion, with the turbinated bodies swollen and touching the septum. The accessory sinuses are usually more or less affected. Catarrhal conditions present, suffer exacerbation, while recent catarrh may become chronic. The congestion period may spread to the lachrymal canals.

The tongue presents a peculiar appearance of whitishness or a dirty creamy color.

There is also an eruption of little vesicles of a peculiar transparency on the soft palate, like sago grains.

The pharynx, larynx and trachea are as a rule hyperaemic, presenting a reddened angry appearance during the acute stage, and the ears through the eustachian tubes are very often involved.

On the passing of the acute symptoms various subacute or chronic conditions present themselves.

Epistaxis may or may not take place.

The nasal mucous membrane may remain swollen, the turbinates presenting hypertrophies.

Usually a persistent neuralgia of the head and face can be traced to one of the accessory sinuses. A number of cases that I have seen, cleared up on opening the cavity involved, in all of which pus existed.

I remember one extremely severe case of intractable neuralgia persisting after the acute symptoms of influenza had stopped. There was no relief except by the use of an opiate. The patient, a man aged 35, I found upon examination had a temperature of 100, and complained of unbearable pain and a feeling as if the right side of the face was bursting. The mucous membrane of the right side of the nose was somewhat swollen and contained a small amount of mucus. Transillumination showed the side affected to be slightly darker. Upon opening the antrum about one-half ounce of dirty looking muco-purulent discharge poured out in which the Pfeiffer bacillus was found. That night the patient slept soundly without an opiate. The cavity was washed out with a solution of bichloride of mercury 1-10,000, and within a month a complete cure was effected.

I have also seen a number of cases in which the frontal sinus was involved causing severe headaches, stupor, dizziness or attacks of supra-orbital neuralgia. Ethmoiditis occasionally follows. The sphenoidal sinus is rarely attacked. In a number of cases a polysinusitis takes place.

The naso-pharynx or pharynx is the site of a marked acute inflammation often with edema and there may be infiltration of the deep muscular layer with dysphagia and severe pain.

Tonsillitis often occurs during an epidemic of grippe. Suppuration of the follicles about the pillars and in the tonsils as well as phelgmons may take place.

The larynx is hyperemic and edematous due to attacks of coughing. Sometimes slight ulcerations take place and the infiltration may go on to abscess formation and even gangrene may follow.

A very interesting case that I saw was one in which the patient, a young lady of twenty, on coughing, expectorated blood clots, or blood streaked sputum which on examination was found to come from a slight ulceration in an intensely congested and swollen larynx and was not due to any pulmonary condition. The sensibility of the larynx is greatest in the inter-arytenoid space and as this is inflamed in this ailment, the intense pain or irritation produced accounts for the dry convulsive cough.

As a rarity a case of erysipelas of the larynx might be mentioned.

As the disease also has a predilection for the nervous system the nerves of the upper respiratory tract do not escape. Paralysis of the soft palate, of the vocal cords either single or both, of the various muscles of the larynx, and of the recurrent laryngeal nerves either alone, or in combination has

followed either during or subsequent to an attack of influenza.

Tracheal hemorrhage has also occurred.

Treatment.—Passing on to the treatment I would like to call attention to the fact that a consideration of the local condition alone will not as a rule bring about the desired result. The general system needs attention and must be carefully looked after.

As a prophylactic it might be well, during an epidemic, to advise all suffering from diseased conditions of the nose and throat, as well as those in attendance on a Grippe patient, to wash out the nose and throat with some one of the usual antiseptic solutions and to look after their general health such as avoiding fatigue, exposure to inclement weather, improper diet, etc.

For the general treatment, various antipyretics, strengthening and stimulating drugs or measures are used in accordance with the case or the method of the attending physician.

For the local care in addition to and preceding the mild warm alkaline washes, if any marked swelling exists, the following is useful:

℞ Cocaine hydrochloratgr.iv.
Adrenalin Chloride sol (1-1000) ℥iii
Normal salt solution q. s. ad. .℥i

M. et Sig. Spray or drop, or apply on pledgets of cotton to nose every one, two or three hours.

If seen early and the patient is robust, a Dover's powder combined with quinine, a hot drink, a hot bath and a calomel purge will often abort an attack.

I have found that oily solutions are often more grateful than watery ones and so I have used the following:

℞ Camphorgr. xv
Mentholgr. x
Benzoinol ℥i

M. et Sig. Warm and use frequently until relieved.

When the sinuses are acutely involved a steaming with the following will frequently give the desired relief by starting or increasing the flow of mucus and diminishing the swelling around the natural outlet.

℞ Chloroform℥i
Menthol℥i
Ol. Eucalypti℥iv
Tr. Benzoin q. s. ad.℥ii

M. et Sig. One teaspoonful in a cup of hot steaming water for inhalation every two or three hours.

If this does not relieve then the cavities must be relieved through puncture or by more radical measures.

For the pharynx demulcent drinks, lozenges of slippery elm, gum, and guaiacum are beneficial.

Abscesses wherever situated must, of course, be dealt with surgically.

For the larynx and trachea, the oily spray mentioned as well as the steaming relieves very much. Warm fomentations over the throat are as a rule grateful. Talking should be restricted, and in bad cases stopped completely. In the hemorrhagic cases, and for the edema, a spray of adrenalin will be found beneficial. In the later stages nitrate of silver, protargol and various astringents will be found effective.

The paralysis will in almost all the cases be found transitory, if not, tonics, electricity and general toning of the system will be required.

A peculiarity of the disease is parosmia, a perversion of the sense of smell, that may exist without catarrh and persist for a long time.

In concluding this paper, I must emphasize the fact that the local conditions cannot be effectively dealt with, without looking after the general system.

Owing to the depressing nature of the disease no operation on the nose and throat that can be avoided should be performed until the system has re-established its power of recuperation, and especially a general anaesthetic should not be used.

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THE SURGICAL TREATMENT OF THE TUBERCULOUS LARYNX.¹

BY

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The purpose of this communication is to endeavor to awaken the same surgical interest in the treatment of the tuberculous larynx that is universally employed in the treatment of local tuberculosis in other parts of the body. It is certainly beyond doubt that the broad and generally accepted surgical rule of putting at rest all tuberculous processes in every other part of the body, has been in this most important of all regions, greatly neglected. Indeed it may be said to have been distinctly discouraged by the specialist, employed only when the disease was so far advanced as to deprive surgical intervention of possible good, and also to place upon it the odium of hastening a fatal termination;

but even in these advanced cases where definite cures cannot be expected, our experience is, that the greatest relief and comfort can be afforded the sufferer.

In order that we may properly appreciate the part played by the tissues of the larynx, per se, in the phthisical process, it is necessary for us to review both the ante-mortem and post-mortem pictures that are so plentifully at our disposal.

It is, we take it, universally admitted that phthisical involvement of the larynx, whether primary or secondary to involvement of the lungs, seriously menaces not only the comfort but as well the life of the patient.

Symptoms.—When the larynx is first attacked, the earliest symptoms will be huskiness or hoarseness in the voice, dyspnea, whispered stridulous voice, (aphonia); breathing somewhat noisy; fits of dry coughing, which at first dislodge nothing save a small amount of mucus, often blood stained, but later there will be pus, laryngeal tissue and urgent dyspnea. This is often advanced to suffocating fits of coughing.

When the epiglottis is involved there is very marked interference with deglutition. This may be so great as to seriously restrict alimentation, thus hastening a fatal termination of the disease. Difficulty, amounting often to obstruction of respiration may be very marked.

A patient with these symptoms is always referred to a laryngologist for the purpose of making careful and repeated studies of the disease, as well as to give to the patient the advantage of the modern methods employed by laryngologists in the local treatment of the disease, and if in a short time there is no tendency on the part of the

¹ Read Oct. 12, 1906, by invitation, before the Atlantic City Academy of Medicine.

disease to yield to local treatment, tracheotomy is unhesitatingly advised.

In every instance the laryngologist will report that the tracheoscopic examination reveals early in the disease in no small number of cases, the presence of granulations on the posterior wall, which are regarded as pathognomonic and will go far toward an early diagnosis.

It is the upper larynx (the arytenoid cartilages, vocal cords and epiglottis), that is more often primarily affected, and where an otherwise sound system exists the indications here, as in any other part of the body, are to secure as near as possible, absolute rest to the larynx.

It is not necessary to take your time in relating the symptoms of this dreaded disease, as the picture is indelibly impressed on the minds of every one of us, as a tracheal examination usually very readily presents a picture of marked anaemia of the laryngeal mucous membrane, which is present from the beginning, and is continuous throughout; swelling of the tissues and then numerous ulcers which are often at the beginning small and extending from below upwards, showing often a remarkable tendency to healing in parts, while at other times coalescence with destruction of extensive areas of laryngeal mucous membrane. Edema is always present and paralysis of some of the interior laryngeal muscles from anaemia, edematous infiltration of the muscular substance or from pressure from enlarged lymphatic glands. When from this latter cause it is usually on the right side, or the paralysis may be due to direct involvement of the nerves and I have seen in one case a perichondritis so extensive as to leave the cartilage, deprived of its blood supply, loose in the larynx.

The inflammation is essentially of low form, insidious in type and rebellious to any kind of local treatment that I have ever known of as being employed, though it is on record that some primary laryngeal tubercular ulcers have spontaneously healed. If the throat affection comes on simultaneously with that of the lungs, permanent narrowing may take place or stricture of the larynx occur and the life of the patient taken before the pulmonary disease is noticeably advanced. The more usual case is to lead to pulmonary involvement when the disease is primarily in the larynx.

Prognosis.—When the laryngeal obstruction precedes or occurs coincident with the pulmonary phthisis, prognosis following surgical intervention should be most favorable.

The indications for surgical treatment of the larynx are:

- 1st. To relieve dyspnea and dysphagia.
- 2nd. To encourage healing of the ulcers by forced rest of the larynx.
- 3rd. To put the larynx in a condition to derive the greatest benefit from local treatment.

Treatment.—All of these indications are put into the most favorable condition by low tracheotomy. By this means the laryngeal ulcers in the few cases that I have employed it, have shown a decided tendency to a fairly prompt healing. The dyspnea is relieved and the larynx is put so completely at rest that the local treatment can be carried out by the laryngologist with prompt beneficial results to the patient, and of course, great satisfaction to himself.

The usually sore epiglottis which gives so much pain on deglutition, is quickly relieved. The benefits of the greater volume of oxygen admitted to the lungs

through the tube is quickly manifest in the circulatory improvement that can be noticed in the patient.

The air can be readily rendered moist by placing over the opening of the tube, four layers of gauze previously wet with a 1-500 carbolic acid solution. This can be changed as often as required, thus serving as a substitute for the moisture the air gets in passing through the nose.

There is no necessity for these patients remaining in bed after the operation longer than the time required to recover from the slight amount of shock it may cause. I have not found it necessary for them to keep to the bed longer than two or at most four days.

So encouraging have been the results of tracheotomy in tuberculous laryngitis in my hands, limited though it has been, that I feel it not too radical to state that in every case, let the state of the lungs be what they may, when there are dysphagia and dyspnea present, palliative treatment should cease as the sole method of procedure, and radical treatment by tracheotomy should be employed, which will not only be more efficacious, but indeed seems demanded, as these two distressing symptoms are instantly improved by it. There is not to my mind, any contra-indication to this line of treatment as every case will be able to withstand the amount of shock that such an operative procedure would cause.

In the most advanced cases where there is afternoon high temperature, there has been a noticeable reduction in this, and in those cases where hemoptysis has previously occurred, I have not known of their recurrence after operation; indeed it is my belief that the removal of the forced respiratory effort lessens the danger of

rupture of the pulmonary vessels, and the ulcerated larynx will be found to heal even while the lung disease is advancing, and where the lung disease is not too far advanced, the same promptness in healing seems to take place as well.

This is clearly illustrated in a case upon whom I operated on the 4th of the present month, where the disease in the two regions was rapidly progressing.

Tracheotomy can be recommended as a cure for laryngeal tuberculosis early in the disease, that is as soon as the classic symptoms are demonstrated, and for the relief of these sufferers, when the disease is far advanced, beyond possible recovery.

DIET AND ELIMINATION OF CHLORIDES.

BY

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After a number of breakfasts on a certain diet continued for a longer or shorter time, without any special exercise, or the taking of any internal medicine, and upon examining the urine after each one, it is found the chlorides, phosphates and sulphates will daily average about the same amount each in their own class. As, for example, if the figures are for the chlorides, 20 phosphates, 6 sulphates, at the first examination, or 19:6:1-2, then upon the following days these amounts will be much the same, other conditions being equal.

The original color of each will also be found the same at first after each examination, but upon exposure to light for any length of time will change to a reddish brown almost without exception.

This of course is usual with a solution of silver nitrate which changes upon ex-

posure to light, always, no matter in what combination. Any change occurring in the amount of each was accounted for in the diet taken at the other meals, exercise, or water drunk, etc.

The kind of food taken, and the amount, seems to increase considerably the amount of chlorides, phosphates and sulphates while some forms of diet followed will increase them much more but especially the chlorides.

Disease, of course, causes many fluctuations in the amounts, from time to time, as different medication will change the color, more so of the chlorides.

No matter what diet is taken, a fixed amount of chlorides, phosphates, and sulphates will be had at first, and following any given regime continually for a number of days, and daily examinations of the urine made, the amounts will be found to be about the same. In these examinations the diet was much the same each morning, and consisted of a glass of water, stewed prunes, breakfast food, dry toast, three pieces, and butter, coffee, sugar, three lumps. This was kept up for two weeks with daily urinary examinations and records made.

At the other meals the diet was increased and diminished to note the effect, then the urine was also examined afterwards to find out if the chlorides, phosphates and sulphates remained the same. This was not the case, for upon taking a heavier meal, especially of meat, the chlorides increased in amount as did the phosphates and sulphates in proportion. Meat, vegetables, bread, and butter, coffee with pudding were taken at the other meal.

The original color of the urine in every instance was the same all of the time; the sp. gr. continued the same, also the reac-

tion. In making the estimates Purdy's Centrifuge was used and served for all the purposes required as being a quick and easy way to determine relative amounts. The ordinary 10 per cent solution of silver nitrate was used to precipitate the chlorides, the alkaline magnesium phosphate solution for the phosphates, and the barium chloride solution for the sulphates.

In these instances the original color of the chlorides was drab, but, upon exposure to the light, changed always to a pure reddish brown without any intermixture of colors as occurs in many cases of disease.

In case of the chlorides the original color will always be the same upon the same diet continued for any length of time, but will always change upon exposure to the light, as previously stated.

The original color of the phosphates was the same throughout with no change on exposure to light and this was the case with the sulphates.

The amount of chlorides seems to be more liable to change than either the phosphate or sulphates and the phosphates more than the sulphates, whether in health or disease. This may be due to the fact that the substances from which the chlorides are derived, form such an integral part of the body fluids and tissues that anything affecting them is certain to cause variations in the amounts, more so in disease.

As chlorine is taken into the body in the form of NaCl , Ca Cl_2 , and also in various meats, it is eliminated in the urine as NaCl , also in the faeces. The NaCl being the most abundant in the body fluids as the blood, anything affecting it will naturally cause a variation in the chlorides. Sulphur being taken into the body as K_2SO_4 , and

also in the proteids, is eliminated as sulphates of indol, phenol and skatol, the odor of the faeces being due to them. They exist in the urine as alkaline sulphates $\text{Na}_2 \text{SO}_4$, and $\text{K}_2 \text{SO}_4$, aromatic sulphates.

The phosphates, sodium, potassium, calcium are found in proteids, vegetables, and by the oxidation of nuclein. They are eliminated in the urine in various forms. The amount of chlorides seems capable of being increased or diminished to a large or small amount, and according to the quantity and kind of food that is taken.

If excess of proteids is taken, as in meats, eggs, cheese, vegetables, etc., the amount of chlorides will considerably increase, but if these are excluded to some extent and carbohydrates taken more, a diminution of the chlorides will occur.

The increase of NaCl in the food naturally causes more chlorine to be discharged in the body and increases the amount in the urine.

The original color of the urine of course in the normal condition is caused by diet and altered by disease and various medication.

A CASE OF ULCUS CARCINOMATOSUM DIAGNOSED DURING LIFE. PARTIAL AUTOPSY.

BY

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Of late years, the etiological connection between gastric ulcer and cancer has received a wide scope of attention, and yet it is rare that cases of gastric carcinoma give clear cut histories of an ulcer having been present in the past. This is not strange considering the fact that more stomach ulcers exist than are diagnosed—

as is proven by the rather common autopsy findings of healed gastric ulcers in those who have died from intercurrent affections.

The following case is worthy of reporting because it shows clinically a direct connection between ulcer and cancer, making possible a diagnosis that is not common during life (*ulcus carcinatosum*), also, the danger in supposing that all acute ulcers are healed satisfactorily when the acute symptoms of the ulcer itself have practically subsided, and further, that the resulting cicatrix in susceptible persons, in advancing years, is possible of carcinomatous degeneration.

The patient was a man 57 years old, of good habits, and in whom the family history was negative. He looked fairly well nourished, and came to see me unattended from a town over 200 miles from New York City. He gave an indefinite history of digestive disturbance and constipation running over about 30 years, which in the first 26 years was not attended with distinct gastric pain, vomiting, or loss of weight. One night, four years before I saw him, he was suddenly seized with acute pain in the epigastrium accompanied with steady vomiting for two days. At this time his first vomitus contained food and streaks of blood, and afterward a red tinged fluid. Gastric ulcer was diagnosed at the time, and measures were instituted for the treatment of that condition. He made a quick recovery from the acute illness, and was out of bed in two weeks, and at his work of farming ten days afterward.

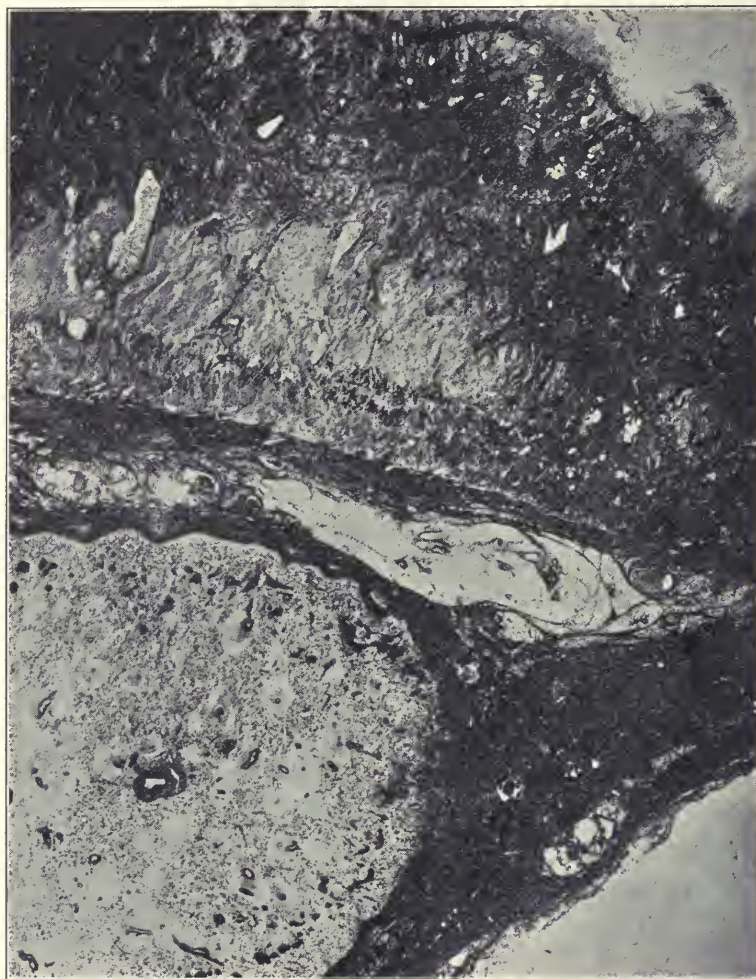
Since that time, his digestive disturbance has been worse. In the first year he had considerable pain in his stomach after meals, and, unless he was careful in the selection of the character of foods and the

quantities he ate at one time, he would vomit the stomach contents and be more or less distressed for some days afterward. In a less prominent way, his local history ran on until about four months before I

On physical examination he looked like a man who had lost weight but still was fairly well nourished. He was perceptibly nervous, although not apprehensive during the examination. There were some

Dense formation of connective tissue and cancer cells replacing the glandularis.

Large globular carcinoma formation with capsule around it.



Shreds of connective tissue on the free surface of the ulcer with a line of connective tissue under same.

Pyloric muscle.

Areolar and connective tissue between and above peritoneum.

Ulcer Carcinomatosum. X 13½.
Stained with Van Gieson. (Hanson).

saw him when he began to lose weight rapidly and became physically too weak to attend to his work. He then began to vomit more steadily, although he thought that altogether he had less pain in his stomach than before, excepting at the attack of ulcer.

coarse mucous rales in his bronchi, and a soft hemic bruit over the body of the heart and in the jugulars. His stomach was not dilated, I could feel no tumor, nor was there much tenderness on deep pressure in the epigastrium although he held the upper segments of his recti somewhat tense.

There was a mild degree of intestinal distension, and a scybalous mass could be felt in the sigmoid. His blood showed 2,700,000 red, and 14,000 white cells. The differential count was not significant, nor did the microscopical examination of the morphology of the red cells disclose more than the anaemia; a few poikilocytes were observed. His urine contained $\frac{3}{4}$ of one per cent. of albumin, and a variety of casts, excepting blood and epithelial. Sputum was negative on examination for T. B. and other organisms.

Following my custom, I advised him to eat for supper a dish of prunes and raisins at eight o'clock that night and visit me in the morning, which he did. I then washed out his stomach with 1000 c.c. of normal saline solution which I saved for detailed examination, and then with 2000 c.c. more which I examined only macroscopically. No particles of prunes or raisins were found, arguing against retention. The first 1000 c.c. revealed traces of hydrochloric acid but no blood. Centifuging the lower 500 c.c. of this (after the whole quantity had stood for one hour), I found pus cells, staphylococci, leucocytes, small cells (probably free nuclei) and a few shreds which looked like connective tissue interspersed with mucus. An Ewald test meal extracted the same morning showed free HCl 14° , combined HCl 10° (making 24° degrees of total HCl), and a total acidity of 31° . There were present very small amounts of organic acids, an increased bacterial flora consisting mostly of staphylococci, but no Boas-Oppler.

By the series test meal method, which I have advanced for making diagnoses of early carcinoma of the stomach, in the

six subsequent Ewald meals (removed during 19 days) the following were noted, A rather steady diminution of hydrochloric acid with a rising quantity of organic acids—mainly lactic—the bacterial picture always being the same in all test meals, and occult blood present on two occasions.

With the history of an acute, most probably followed by chronic ulcer of the stomach, the developing loss of the weight beginning late in the history of the latter, the onset at this time of more continuous vomiting and loss of pain, the steady diminution in the amounts of hydrochloric acid secretion and the raising of the organic acids, the two occasions when blood was noted, the presence of pus in the empty stomach, and the constant presence of increased bacterial flora always of the same type, the steady loss of weight noted each morning before breakfast and after the bowels had moved and the urine voided (which loss ran down about two pounds in a week), the increasing anaemia, and the fact that when the epigastrium was examined in a prolonged bath a mass about as large as a hen's egg could be felt deeply situated in the pyloric region, made possible a diagnosis of *ulcus carcinomatosum*.

Operation or exploratory incision was refused at the time of the making of the diagnosis. The patient gradually developed the general clinical picture of cancer, although in so far as the local symptoms were concerned they abated if anything under the fluid and semisolid diet. His death occurred at the end of an extreme emaciation, to which finally were added an anuria and convulsions probably of kidney origin. The family consenting to an incision for investigation and refusing the performing of a complete autopsy, I

¹ Bassler. Early Diagnosis of Gastric Carcinoma, Medical Record, Dec. 26, 1908.

succeeded in obtaining this section of the pyloric region. At the autopsy, in as far as I could feel with my hand in the abdominal cavity, no other growth could be felt excepting that under the posterior wall of the stomach which was about as large as a child's fist. There were no metastases palpable on the surface of the liver, about gall bladder, in other parts of the stomach, or around in the peritoneal cavity. The lymphatic glands at the root of the mesentery, at the neck of the gall bladder, and along the greater curvature of the stomach were moderately enlarged.

DIET IN CHRONIC DISEASES OF THE ADULT.⁽¹⁾

BY

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In this age of individualization in the management of our patients, it is difficult, if not quite impossible, to lay down hard and fast rules regarding diet in any particular disease. The personal element must be considered, and the circumstances and idiosyncrasies of our patients must not be ignored. It is pretty generally agreed that feeding, when properly and carefully carried out, will have a most beneficial effect in such chronic conditions as tuberculosis, rheumatism, locomotor ataxia, dropsy, the hemiplegias, etc. But here, again, we must first consider the needs of the particular patient under treatment. Whatever foods will best nourish that patient, provided they agree with him, are the ones to be prescribed. The elimination of certain foods from our diet lists in the management of say, rheumatism,

has been the outcome of experience. Foods that are known to disagree in the majority of cases, in other words to retard recovery, are very properly forbidden.

In a general way, therefore, in our management of chronic rheumatism, we eliminate as far as possible, all sweets, red meats, starchy foods, as potatoes; substituting therefor eggs, oysters, the white meats, some varieties of fish, and the more digestible vegetables, particularly the green ones.

In the management of the diet in our dropsical cases, large quantities of fruit are forbidden. In locomotor ataxia, a careful regulation of the diet saves the patient from many uncomfortable symptoms.

In diet in tuberculosis, in a general way, whatever best agrees with the patient and is relished by him is recommended; the kind and quantity of food being governed by the stage of the disease, that is, the condition of the patient. Milk is the food *par excellence* throughout the entire treatment of a tuberculous case. Beef juice, the broths, etc., all have their place.

There seems no longer any doubt as to the place of alcohol. Whether or not it is a food has lately been the subject of much discussion, and I should like to quote Dr. Frederick Peterson on this point. "If alcohol is a food," said Dr. Peterson, "it is a poisoned food. It is one of the most frequent causes of tuberculosis. Furthermore it complicates and aggravates acute diseases. I believe that human evolution has now reached the stage when the abolition of the use of alcohol as a beverage is expected and required. Abstinence is one of the principles of human eugenics, that new science which is just being born."

Among the newer writers on diet in chronic diseases, Dr. Julius Friedenwald

¹ Read before the Northwestern Medical and Surgical Society, Nov. 18th, 1908.

(Baltimore, 1905) has given us an index to diet in various chronic and acute cases so complete that there seems nothing to add to his classification.

Dr. Pearce Kintzing, of the same city, (Sept. 1908) writes most entertainingly and instructively on Diet and Dietetics, Fads and Fancies, Errors and Doctrines. This book deals more particularly, however, with the diet of those in fairly good health, which after all, is much more interesting and important. In the prevention of disease we have no greater prophylactic agent than suitable food. The association between bad feeding and such diseases as phthisis is well established; while improvement in nutrition, without any medication whatever, is not infrequently followed by cure.

The mental effect produced by perfectly cooked and daintily served food cannot be overestimated. I have in mind a prominent physician of this city, whose success in the treatment of his patients can in a great measure be attributed to the care exercised over the food served in his sanitarium. Before giving any medication whatever, (the majority of his patients are surgical cases) the patient is fed on an approved diet, with a resulting optimistic spirit that is not without its effect on the welfare and health of the patient.

The number of diseases that have their origin in wrong feeding is legion. In the rush of the present age of bustle and hurry too little attention is paid to what is eaten, and to whether it is nourishing or otherwise. And I feel that I cannot do better than to repeat here the admirable dietary list prepared by Dr. William Henry Porter, of this city, covering a restricted and mixed diet.

"For an Absolutely Restricted Diet. Buttermilk, skimmed milk, or milk, or

some of the fermented milks (Kumyss, zoolak, sumal). Beef tea, bouillon, and plain mutton, chicken, clam or oyster broth.

"An Ideal Mixed Diet. For breakfast: Two eggs, eight ounces of milk, two ounces of wheat bread and butter.

For the mid-day meal: From one-quarter to one-half pound of beefsteak, eight ounces of milk, three ounces of wheat bread and butter.

For the night meal: From one-quarter to one-half pound of beefsteak, eight ounces of milk, two ounces of bread and butter.

At bed time: Eight ounces of milk.

"Beefsteak is taken as the working standard among the meats as it is the most easily digested of all the food stuffs. Under the heading of meat is included lamb, mutton, occasionally veal; all kinds of fish, including the shell forms, such as oysters, clams, lobsters and crabs; poultry and game of all kinds.

The meats to be broiled, boiled or baked.

The fish to be boiled or baked.

The oysters and clams to be eaten raw or stewed. The lobsters plain boiled.

A little crisp bacon may be taken from time to time, also ham and corned beef, *without cabbage*.

Eggs may be taken boiled, poached or scrambled.

The milk is best taken warm or with a little lime-water added.

Wheat bread is taken as the standard because it is the most easily and perfectly digested. It should be at least twenty-four hours old or toasted; rye, graham, zwieback, or the health food breads may at times be substituted.

Weak coffee, without milk or sugar, or with a dash of milk may be taken freely as a beverage. Coffee taken clear aids digestion, but with milk and sugar often disturbs digestion."

"Additions to Enlarge the Above Diet. In the line of vegetables—string beans, green peas, lima beans, spinach, lettuce, asparagus, and cauliflower. These are chosen because they are least likely to excite intestinal fermentation of an abnormal character. They should be well cooked, and only one vegetable at a meal.

When a vegetable is taken with the meal there must be a reduction in the quantity of meat or milk as given in the above table.

To the above may be added boiled rice and macaroni, and occasionally boiled beets."

Food Stuffs to be Avoided. All fruits, either cooked or raw; all cereals and breakfast foods, nuts, sweets and pastry of all kinds, potatoes in all forms, onions, tomatoes, turnips, parsnips, carrots, celery, radishes, cabbage, egg and oyster-plant, corn, etc., pork in all forms, except as before stated. Rich gravies, and all forms of soup are excluded. The latter, first, because they tend to destroy the keen appetite which makes possible the eating of plain and substantial food; second, because they destroy the appetite and stimulate a strong desire for the entremets and highly seasoned foods; and, third, because the mixed cream and rich stock soups tend to excite undue and putrefactive fermentation in the intestine. Rich gravies because they tend to disturb digestion.

Potatoes, that are so commonly used, are excluded for three reasons: First, because they have a high percentage of starch and a low percentage of proteid; second, because they are so apt to be taken three times daily, and are so often eaten fried; third and chiefly, because of the ease with which the starch contained in the potato is digested and assimilated within the system. In consequence of this rapid utilization of the potato starch, which yields to the animal economy only heat, the oxygenating capacity of the system is exceeded, and there is not a sufficient amount of oxygen left within the body to perfectly oxidize and assimilate the proteid constituents of the food that must be accomplished if a perfect state of health is to be maintained. In the repair of the diseased conditions it is still more necessary that the proteids shall be perfectly oxidized and assimilated, hence the absolute necessity to exclude the potatoes and food products enumerated.

Fruits are excluded, first, because they are usually picked before they are fully ripe; second, because they are in a state of partial putrefaction, and are often covered with bacterial life when eaten, and often taken in excessive quantities. Hav-

ing reached the alimentary canal in this state, they excite undue and putrefactive fermentation of proteid constituents contained within the intestinal canal and thus prevent the perfect digestion and assimilation of the proteid elements of the food."

When these rules are followed a good variety in the dietary can be secured, and a high grade of nutrition established and maintained. Disregard of these rules will sooner or later result in disease of one kind or another.

The close adherence to these rules, with suitable medication, will result in the cure of many a diseased process, which otherwise will make life miserable and ultimately cause an untimely death.

COMPARATIVE TABLE OF FOOD-STUFFS.

Kind of Food.	Water, H ₂ O.	Proteids or CLINOS.	Starch, Sugar and Cellulose or CHO.	Fat or CHO.	Mineral Salts.
Human milk	88.28	3.41	4.62	3.48	0.21
Cow's milk	86.23	3.73	4.93	4.50	0.60
New milk	86.00	3.10	5.20	3.90	0.80
Skimmed milk ...	88.00	4.00	5.04	1.80	0.80
Buttermilk	88.00	4.10	6.40	0.70	0.80
Mares' Milk	82.32	4.70	11.00	2.70	0.28
Kumyss of Mares'					
Milk	91.62	1.12	2.20	1.20	0.02
Kefair	91.93	3.80	2.00	2.00	0.27
Kumyss, Dr. Brush,	90.99	2.04	3.26	1.91	0.44
Matzoon, Dr. Dadir-					
rian	87.69	3.98	2.03	4.91	0.78
Kumysgen, Carn-					
rick	86.81	4.16	8.63	1.02	2.00
Cream	66.00	2.70	2.80	26.70	1.80
Cheese	41.84	29.23	....	23.84	5.09
Cheddar cheese ..	36.00	28.40	....	31.10	4.50
Skim cheese	44.00	44.80	....	6.30	4.90
Eggs	69.05	15.58	....	13.96	1.41
Entire egg	74.00	14.00	....	10.50	1.50
White of egg.....	78.00	20.40	....	....	1.60
Yolk of egg	52.00	16.00	....	30.70	1.30
Lean beef	72.00	19.30	....	3.60	5.10
Fat beef	51.00	14.80	....	29.80	4.40
Lean mutton	72.00	18.30	....	4.90	4.80
Fat mutton	53.00	12.40	....	31.10	3.50
Veal	63.00	16.50	....	15.80	4.70

Fat pork	39.00	9.80	....	48.90	2.30
Green bacon	24.00	7.10	....	66.80	2.10
Dried bacon	15.00	8.80	....	73.30	2.99
Ox liver	74.00	18.90	....	4.10	3.00
Tripe	68.00	13.20	....	16.40	2.40
Cooked meat, roast no dripping being lost (boiled, as- sumed to be the same)	54.00	27.60	....	15.45	2.95
Poultry	74.00	8.80	....	3.80	1.20
White fish	78.00	18.10	....	2.90	1.90
Eels	75.00	9.90	....	13.80	1.30
Salmon	77.00	16.10	....	5.50	1.40
Average meat	65.56	17.51	....	13.16	3.77
Fat meat	54.22	15.99	....	28.22	1.57
Lean meat	74.44	19.77	....	2.56	3.23
Average of fish...	75.57	16.98	....	6.20	1.25
Beef tea	95.79	3.28	....	0.25	0.67
Butter	11.70	0.50	0.50	87.00	0.30
Bread	36.00	7.50	53.85	1.15	1.50
Wheat flour	12.46	14.66	67.62	1.93	3.33
Rye	13.97	14.27	66.91	2.25	2.60
Rye meal	15.00	8.00	73.20	2.00	1.90
Barley	13.80	12.96	67.18	2.76	3.10
Barley meal	15.00	6.30	74.20	2.40	2.00
Oat meal	12.05	12.15	67.00	6.55	2.25
Corn	14.80	12.50	62.65	8.80	1.25
Indian corn meal.	14.00	11.10	65.10	8.10	1.70
Millet	13.14	12.35	68.35	3.60	2.30
Rice	15.14	7.47	75.69	0.80	0.90
Potatoes	74.50	2.25	21.92	0.15	1.18
Lentils	12.51	24.81	58.36	1.85	2.47
Beans	11.75	24.31	58.03	2.54	3.37
Peas	14.03	23.00	57.80	1.86	2.41
Carrots	83.00	1.30	10.40	0.20	1.00
Parsnips	82.00	1.10	15.10	0.50	1.00
Turnips	91.00	1.20	7.20	....	0.60
Cabbage	91.00	2.00	5.80	0.50	0.70
Green vegetables..	88.00	2.50	3.25	1.75	4.50
Alcohol (?) .....	.75	....	99.25	....	...
Sugar	5.00	....	95.00	....	...
Treacle	23.00	....	77.00	....	...
Arrowroot	18.00	....	82.00	....	...
Beer and port....	91.00	0.10	8.70	....	0.20

In severe burns of the chest always watch for symptoms of septic pleurisy or pneumonia. Both are not uncommon.

In prolonged unconsciousness from any cause, never forget to empty the bladder every three or four hours.

The pulse tells more than the thermometer to the skilled diagnostician in the course of an attack of appendicitis.

PROPHYLAXIS AND TREATMENT OF DIARRHEAS OF CHILDREN AND GASTRIC DISTURBANCES.¹

BY

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This is a subject to which in importance the ravages of tuberculosis and pneumonia, the scourges of maturer years, is as nothing.

Throughout the civilized world there would seem an almost yearly decrease in the mortality rate among adults. We show a unanimity of purpose and a concentration of effort in this strife against disease which proclaims as nothing else could the high value we place upon ourselves and our right to live. Oslerism is in no danger of becoming popular either in theory or practice. But the baby and the little child, what has our civilization done for these? From every country come statistics that read more like the returns from a battle field, than they do like the vital statistics of children living in this humanitarian age—figures that are simply appalling and seem to damn our civilization with their immensity. And the pity of this slaughter, the crime of it comes home to us when we realize the fact that it is largely unnecessary and easily preventable.

Of the thousands of little ones each year that are born, how many thousand live their short lives and die without once having suckled a mother's breast, without once having glimpsed the green things of this earth, or breathed air undefiled! The tripod of the baby world, mothers' milk, fresh air, and sunlight have been denied

¹ Read before Jefferson Co. Med. Society, May 18, 1908.

them, and they die silent victims, a tribute to selfishness, ignorance and neglect. Out of the total death rate in this country in 1905 one-fifth were children under one year of age and of these one-half died of enteritis. It has been estimated of all children dying under one year of age from one-third to one-half die of bowel trouble—and of these from 75 to 85 per cent are artificially fed. Planchon has found in Paris that during the winter months for breast fed infants, two die per thousand of enteritis, during the summer months twenty per 1,000—for artificially fed twelve during winter and 158 per 1,000 during summer. Further, during the summer months of those dying of bowel trouble over 90 per cent are artificially fed. Tyson states that three-fourths of all children dying under one year of age in England are artificially fed. Hope, of Liverpool, believes that artificial feeding is practically entirely responsible for the high mortality in infants and that all other prophylactic or hygienic measures are negligible in comparison. But how do we of the United States stand in comparison with other countries as to these mortality returns? At the top, of course, and that even though we do not worry ourselves over complete and accurate returns as is done in most European countries. We have fifteen cities with a greater mortality amongst infants under one year of age than has the worst city in Germany. And the South has the enviable distinction of eleven on this list of fifteen, heading the list with the three worst. We might multiply statistics almost indefinitely, but there is no necessity, for it is clearly a fact that the mortality amongst infants is frightful—and that from 1-3 to 1-2 die of gastro-intestinal trouble, and that of these

75 to 85 per cent are artificially fed. That the summer months bring with them a terrible fruition as a result of previous or present departures from nature's method is also true. There is then no necessity for any carefully woven theory as to prophylaxis; there is no necessity for calling on the microscope or laboratory to find the reason why and present us with a specific. We need but read the returns and the evidence is all in and conclusive. The breast fed baby largely possesses an immunity against gastro-intestinal troubles, while the artificially fed infant's chances of surviving are of the forlornest of forlorn hopes.

The thing to do then is to make a woman nurse her child. But is it not true that a large proportion of women are unable to suckle their babies? Van Burgin's estimates declare, for all of Europe, 75 per cent of women can nurse their young. In France it is said that out of a hundred healthy women 99 can perform this mother function. In the city of Bremen, Germany, 63 per cent of all babies are breast fed. It is also stated that true agalactia does not exist. It would seem then that woman's inability to nurse her young exists more largely in her head than it does in the mammary glands—it is more largely a lack of desire to, than any true inability to perform this vital function.

We of the medical profession, then, to whom life is peculiarly sacred, to whom the impregnated ovum means sacred life, have before us a plain and vital duty, a crusade each in his own limited sphere, against this slaughter of the innocents. Women should be made to realize what they are doing when through indifference they fail to nurse their babies, and we should absolutely refuse to be silent as to

this or in any way a party to it. They should be made to know when this new life is first apparent to them that the suckling of the baby that is to be born is as much their duty as it is to hold viable and sacred the life within their womb. If there is anything in hygienic or other measures that will tend to assure a normal secretion of milk it is as much our duty as physicians to see that these things are done as it is to see that the welfare of the woman is conserved during her pregnancy. But is it not a fact that we doctors have not been blameless in this wide-spread evil of artificial feeding? Is it not true that we have frequently allowed or ordered a baby taken from the breast and fed artificially under slight provocation? This decade of medicine is marked by the conservatism of the internal medicist in the use of drugs—popularly we state that we are afraid of interfering with nature and all of our former boldness has been absorbed by our brother surgeons. And yet we can show a temerity that would put to shame the best of surgeons—and as for interfering with nature—why we make a regular side show performance of her simplest teachings. To attempt to rear a baby on cow's milk, is in each instance, a dangerous experiment, and we should realize that nothing save dire necessity warrants any such attempt. That it is an experiment is proven from the diversity of opinions held by the different authorities as to how to do it. That it is a dangerous experiment statistics verify, and the known infections that such milk may carry substantiate. What should be done toward relieving this famine amongst our babies? First the mother should be made to appreciate the necessity of nursing her young and then she should be assisted if neces-

sary by the removal of conditions adverse to the proper performance of this function. A nursing woman peculiarly needs good food, good sleep and good air. If because of poverty these things are denied her, I believe the government should make provision. We are spending millions irrigating arid land, that it may bear its harvest; why not contribute some of our wealth toward rendering fruitful barren breasts and adding another possible worker to the State! Where a mother cannot nurse her baby let us try for a wet nurse.

I believe as a prophylactic measure in breast fed infants during the summer, the intervals of feeding should be longer than those usually advocated, and I think it is a mistake to commence weaning so early as the tenth or twelfth month, unless there is some individual reason for it. As to artificial feeding, I do not think it is within the scope of this paper to attempt to go into it fully. As a matter of fact, it is not feeding, but treatment and of the heroic type.

Briefly, whatever formulae you may have to adopt, your milk should be clean, fresh, whole, free from pathogenic germs, and should be kept cold; and it would seem that the work of Holt and Parke in New York taken in conjunction with the history of the Straus milk depots have almost proven that pasteurization is a great safeguard during the summer period.

Climatic conditions largely affect the appetite, and the appetite in the normal unspoiled individual is generally a fair index to the digestive capacity. In the Arctic, we see the Esquimaux dispose of his eight or ten pounds of raw meat, to wake in the morning hungry for his light breakfast, while on the other hand the Arab of the desert is satisfied with a few dates. The

Englishman in England is faithful to his roast beef, but the Englishman in India finds that he has changed his appetite with his clothing.

Therefore if we wish to avoid trouble, with the advent and during the summer months, our bottle fed children should be put upon short rations—and, further, the usual quantity and proportion advocated in the North are dangerous here. Lessen the quantity and lower the percentage of fats. For the Anglo-Saxon, heat is a great nervous depressant—and for our children, with their nervous system in the process of making, this is particularly true. Since digestion is largely dependent upon the nervous forces, being by no means merely a chemical and mechanical process, it behooves us to practice a little under feeding, rather than run the risk of impaired digestion with enteric trouble to follow. Keeping in mind the child's peculiar liability to nervous exhaustion, the slow development of the nervous centers of control, and the baneful effect heat exerts upon this system, we should try in every way to preserve the nervous equilibrium; and because of our climate which is almost subtropical, we of the South should always bear this in mind with our children. There is no better nervous restorative than sleep, and our babies and children need a larger proportion of this than do children further North. They should be put to bed early, taken up early, and have a long sleep in the day. I believe that with us during our summer, the nervous origin of many of our gastric and intestinal disturbances is a big factor, and we should take particular cognizance of this in prophylaxis.

For older children, the time to have instituted true prophylactic measures was in

their babyhood. They should have been breast fed. Metabolism is greater with a baby than at any other time of life—the organs not only functionate, but grow very rapidly, and to me it seems reasonable to suppose, that the tissue and structure of organs built up out of the best of foods would be more nearly perfect than those derived from the worst. Simple food, fed at regular intervals, fresh air, plenty of sleep, cool baths and early attention to digestive disturbances should constitute the necessary prophylactic measures.

As to treatment, I believe it is impossible to do more than speak very generally. We have no specifics, and we must treat each case individually to treat it intelligently. The first indication in the treatment of bowel trouble in infants and children is, of course, dietary. Food must be stopped for a longer or shorter interval, varying with the severity of the symptoms. The nursing baby should be returned to his food very much earlier than the older child, and the sooner you can safely have food retained the quicker they will get well. Of course, whatever food is used should be weak, small in quantity, and fed at long intervals. For the nursling, let some water be given and then the baby nursed for two or three minutes. For older children, I have never found anything better than whey as a general thing.

Having stopped the food, our next usual indication is to empty the stomach and bowels. The stomach pump will do the one and castor oil the other. Ordinarily I do not believe the washing out of the stomach is a necessity. Castor oil for emptying the bowels is all right but personally I prefer calomel. It has always seemed to me that calomel exerted a more powerful influence in relieving the symp-

toms of an intestinal toxemia than any other medicine. Whether it does this through increasing the flow of bile or through rendering less absorbable the bile, or through some of the calomel being converted into bichloride by the action of the hydrochloric acid of the stomach and thus increasing the general metabolism, I do not know. But in some way metabolism does seem to be stimulated, apart from any purgative effect that calomel may give.

After we are sure that the intestinal tract is empty we may resort to astringent medicaments. Personally I like bismuth subnitrate. We know it is an astringent, a weak antiseptic and that it will go where we want it to go and will not do anything else. I mean that the fact of its action being purely a local one recommends it for children; it is not going to do something we neither expected nor wanted done. A powder composed of five or six grains of bismuth with from 1-6 to 1-4 of calomel given every two hours I have found very useful. Opium so far as the bowels are concerned, I do not believe is often indicated; but to relieve pain and help the nervous system by rest it may be required in small dosages. Children early show shock and for this reason stimulants are soon demanded. I think this very important. The fact that metabolism is so active in a child, and that in these conditions it is almost arrested, soon makes itself apparent and we must early stimulate for the benefit of the nervous system. I believe that whiskey in small dosages is the best nervous stimulant we can give a child.

We must not forget the nervous system and whatever we do must be done with as little friction as possible. Irrigation of the bowels with normal salt solutions is fre-

quently a good procedure. It seems to act partly as a stimulant and helps to relieve the toxemia.

Children are very prone to anemia, in fact their percentage of haemoglobin is usually lower than an adult's and in these bowel troubles they early show this tendency. I have, therefore, given the peptonate of iron frequently before convalescence had begun—and it has seemed to hasten recovery. In fact two of the worst cases of ileocolitis I have ever treated did not begin to improve until I started them on iron.

The child should be kept quiet, not handled, and have plenty of water and fresh air.

I believe where it is possible, in long continued severe cases of ileocolitis, taking the child or baby for a drive early in the morning and possibly in the evening may save lives. The drive should be to the country and not too long.

Hydrotherapy for the fever should be resorted to, and if the child objects seriously to cool water do not defeat your own purpose by insisting on it.

To sum up the whole thing, treat the individual—treat him as a corporate whole and not as a mere inflamed or irritated bowel—and do not forget his nervous system.

In injuries to the penis, if laceration of the urethra is suspected, do not fail to leave a catheter *in situ* for several days.

In cessation of breathing during chloroform anesthesia, a rapid dilatation of the sphincter ani is one of the best procedures for resuscitation.

In old people when history of a fall and lameness is given, be always on the lookout for fracture of the hip.

**A SHORT BIOGRAPHY OF DR. JOHN
J. ELWELL.**

BY

THOMAS HALL SHASTID, A. M., M. D., LL. B.,
Marion, Illinois.

John J. Elwell, one of the ripest scholars and most courtly gentlemen who ever graced either the medical or the legal profession—was born near Warren, Ohio, June 22, 1820. His youth he spent on a farm. His early education he acquired at the public schools of Warren and at the



DR. JOHN J. ELWELL.

Western Reserve University, and his medical degree he received at the Cleveland Medical College. For some years he practised medicine. Then he turned his atten-

tion to the law. He was admitted to the bar in 1854, and entered at once into legal practice. He soon became professor of medical jurisprudence in the Ohio State and Union Law College and Western Reserve Medical College.

In 1853 and 1854 he was a member of the Ohio Legislature from Ashtabula County. In 1857 he established the Western Law Monthly, and was for years both its editor and its publisher.

In August, 1861, he entered the Union army in the capacity of quartermaster. Though his duties were, of course, of a non-combatant character, yet, whenever a fight was in progress, his active disposition and profound patriotism would never permit him to remain quiet. He led charge after charge, delighting to expose himself wherever the shells and bullets flew thickest. At Fort Wagner he kept in the very heat and flame of the battle, and, though our troops were at last repulsed with heavy loss, yet General Elwell had personally attained almost to the very slope of the fort. In all of his fights he made a striking figure. Astride of a splendid charger, he kept well ahead of his troops, sword flashing, bareheaded, with long hair streaming in the wind. He seemed the very personification of battle, and those who looked upon him were filled with energy and enthusiasm. His appearance had, in fact, the stimulating effect of fine martial music.

At Port Royal he was stricken with yellow fever. For a time it seemed that he could not possibly recover. Owing largely to the careful nursing of Clara Barton, he did at last, somehow, manage to get well. His health, however, was so impaired by this attack of sickness, that he was placed in command of the prison for confederates at Elmira, N. Y. One day, at

¹ This sketch is to appear in Dr. Howard A. Kelly's forthcoming "Cyclopedia of American Medical Biography." We are pleased to give it advance publication here, because it happens to be the only sketch extant, so far as we know, of this distinguished American writer on medical jurisprudence.—ED.

Elmira, while driving a spirited team, he was run away with. The carriage was upset, and the General was thrown with great force against a stone step. A number of his bones were broken. One day, not long after, while going downstairs, from his offices, he stumbled and pitched head foremost to the bottom, re-fracturing the femur. As a result of all this illness and injury, he was never again entirely a strong man, and his swift and active gait became slower and displayed a decided limp.

Dr. Elwell was a polished, as well as a copious, writer. In addition to the literary duties which he performed as editor of "The Western Law Monthly," he wrote voluminously for many other journals, both legal and medical. He was one of the contributors to Bouvier's Law Dictionary, and was also one of its editors. He wrote repeatedly for the leading literary journals and magazines, and some of his articles in the North American Review attracted widespread attention. His *magnum opus*, however, and the work on which his fame as a writer rests, is his "Malpractice, Medical Evidence, and Insanity." This not very large work (of only 594 pages, even in the latest edition) contains in compact form the law relating to the subjects of which it treats, so clearly and thoroughly stated that the volume at once became a leading authority not only in America but also in Canada and Great Britain. It went through four editions, and, at present, is much consulted both by doctors and by lawyers. It does not profess to cover the whole of the medico-jurisprudential field, but the portion with which it does concern itself, has not been cultivated by any other writer with equal assiduity and success.

Five times the space at our disposal would not suffice for a bare enumeration of the various important things accomplished by this long-lived and very active man. His work as a physician, his labors as a lawyer, his vast efforts in the interest of soldiers and sailors (including his work for the Cuyahoga Co. Soldiers' and Sailors' Monument) all these and a multitude of other things must be passed by, however much we might delight to dwell upon them. We will therefore pass at once to a very brief mention of some of General Elwell's physical and mental traits.

General Elwell was tall, about six feet. In middle life he was of rather substantial build, but, later, was inclined to be slender. His complexion was light, and his cheeks ruddy till sickness made them sallow. His hair in early life was abundant, and of a lively rich brown. He wore it rather long. His eyes were gray, and very gentle and kindly. His manner was quick, earnest and impulsive. In battle, as already stated, he was enthusiastic and fiery. Modesty and self-depreciation were salient characteristics of his. He was fond of children. He married Nancy Chittenden, by whom he had one son and three daughters. Neither the wife nor any of the children survived him; indeed, two of his children died in early childhood. On the death of his wife, he brought the three children of his younger brother (who had also lost his wife) to his house and adopted them. To these he later left his entire fortune. The brother himself, soon after the adoption, made his home at the same house. All these were very happy together. In fact, where General Elwell was, happiness seemed to abound naturally. So genial and kindly was his disposition that he

seemed to cast a glow of sunshine everywhere he went. He shared his offices with several companionable friends. These were all old men, but as full of good cheer and spirits as if they were boys. Alfred Elwell, the general's brother, was 78. Dr. H. H. Little was 80. Judge Darius Cadwell—drollest of *raconteurs*—was 80 also. And Dudley Baldwin—whose father had been an officer throughout the entire Revolutionary War—was 91 years of age. The General was a member of the Methodist Episcopal Church and perhaps did more than any other member in helping the minister to conduct the regular services. He had a little custom, which everybody loved, of procuring, on Decoration day, an immense United States flag, and carrying it in person up the central aisle of the church to the front. Then, while the choir was singing the preliminary hymns, he busied himself with decorating the altar and the pulpit. He was fond of stories. Among his large fund he used sometimes to tell the following, an actual occurrence: A rather "close" old gentleman, being upon his deathbed, and surrounded by kin and friends, addressed his family physician: "Doctor, I have settled all accounts but yours. Now, how much do I owe you?" The doctor disliked to make out a bill before the sorrowing relatives, but mentioned a small amount, which he stated would be satisfactory. "All right," said the old man, "will you take it in mutton?" The doctor, in his embarrassment, replied that he would. "Fore-quarters?" the old man added. "Yes," said the doctor. "All right," said the old gentleman. Then, with a long sigh, he turned over and died.

Doctor Elwell was a man of considerable property, and his purse was always open to his friends and to the poor. He tried to give with judgment, however, and in a way to accomplish the most good; but yet, in all doubtful cases, in which his largess was applied for, he decided the

matter in the affirmative. Most frequently, too, his largess did not even have to be applied for.

The general, though he lived to be almost 80 years of age, never wholly recovered from the effects of the yellow fever and of the accidents which followed so closely on his attack of that disease. The day before his death, he wrote to his lifelong friend, Capt. Levi T. Scofield, of Cleveland, this very simple message: "Captain, come and see me." The friend complied at once. The General, though sick, rose, as his old friend entered, and placed before the fire-place a rocker. Then he said, "Captain, I am going to die to-night. But please do not tell General Barnett or Major Kendall of my condition. It would pain them greatly to see me suffering so." That night he rose again to do some simple favor for two young men, strangers, who had not known of his condition. Three hours later (March 13, 1900) he was dead.

He had always wanted a very simple funeral, and he had indeed repeatedly expressed himself to that effect to Captain Scofield. His old companions and other admirers, however, would not have the matter thus. So very urgently, indeed, did they insist, that, at the last, the friend gave way, and public obsequies were accordingly instituted. A very large gathering came to view the remains of the gallant soldier, the widely read scholar, the profound thinker, the polished writer, the loyal and enthusiastic friend, the courteous, kindly gentleman, the ardent and sincere Christian. It was, perhaps, much better that the services were public; for the influence of such a character as that of General Elwell on a community, is surely great indeed, and the sign of the passing of a man like that should be distinctly emphasized, in order that the public mind may be the more strongly impressed with the possibility of an almost perfect, yet altogether human, personality.

PROSTATECTOMY AND BLADDER SURGERY—REPORT OF CASES.*

BY

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Within the past year I have had occasion to perform prostatectomy on seven patients ranging in age from 46 to 68 years.

All of these patients were entirely relieved of their previous symptoms and have become useful citizens.

Two were operated upon at the Montefiore Home, two at the Beth Israel Hospital and three at the Sydenham hospital.

The points that I desire to emphasize are that the suprapubic route afforded in each instance an accessible route without any difficulty for the removal of the prostate.

The patients were able to be up out of bed within a few days and were able to empty their bladder within 3 or 4 weeks subsequent to the operation. Another advantage of no little importance is that the suprapubic route permits the operation to be completed in two stages. This method I found of incalculable value in one of my cases: S. L., age 56, admitted to the Sydenham Hospital, July 16, 1908, with a history of retention requiring catheterization off and on for several months and incontinence with constant dribbling of urine for several weeks. Upon admission his bladder was found to be extremely distended and reaching above the umbilicus; his genitals were excoriated from the urine constantly dribbling from the overdistended bladder. The patient was catheterized and

a large quantity of foul smelling urine withdrawn which was followed by a tremendous quantity of bloody fluid which put the patient into shock. His general condition was so poor that general anaesthesia was at the time considered hazardous. A painless suprapubic cystotomy was performed by infiltrating the skin with a 1/4% cocaine and adrenalin solution. The bladder was irrigated and drained through the wound for two days, ether was then administered and with a very brief primary anaesthesia the prostate was peeled out, the cavity packed with gauze and drainage tube inserted into the bladder.

This patient voided urine and had perfect control of his bladder within 3 weeks after the operation and the wound had entirely healed.

He had been unable to perform any kind of work for over 6 months prior to the operation. Only yesterday he wrote stating that he has again resumed his former vocation of traveling salesman, that he has gained at least 15 pounds in weight and feels better than he has felt in years.

The ease with which the prostate gland can be exposed and after incising its capsule within the bladder shelled out by the finger is striking. In these old and decrepit men with infected bladders and more or less kidney trouble where every moment of general anaesthesia is of serious import the method of preliminary cystotomy under local anaesthesia is most satisfactory. It affords drainage of the bladder for the existing cystitis and then allows removal of the prostate in one or two moments with the aid of general anaesthesia induced by nitrous oxide, ethyl chloride or ether.

I have here 2 specimens typifying the 2 varieties of prostatic disease that cause sim-

*Stated meeting of Eastern Medical Society, held on Dec. 11th, 1908.

ilar symptoms. One is of comparatively small size and of the fibrous variety. This larger specimen filling the jar is of the adenomatous variety. These were removed by the same method from cases 5 and 6 respectively of this series.

The hour will not permit me to dwell upon the relative merits of the suprapubic or the perineal routes.

Each one of the methods has its adherents. I believe one should familiarize himself with the technic of both methods.

That the small hard fibrous type of gland can be as readily removed as the larger adenomatous gland by the suprapubic route is shown by the specimens presented.

In conclusion I should like to mention that we cannot afford to lose sight of the great advantages of the suprapubic operation. The operation can be performed in two stages.

It can be performed painlessly under local anaesthesia using less than 1-10th of a grain of cocaine, while the patient lies in a comfortable partial Trendelenburg position.

The operation affords an easy access to the entire bladder affording exposure of every portion of the bladder mucosa.

The patients are permitted and are usually able to be out of bed within 3 or 4 days after the operation.

We have in the suprapubic prostatectomy a safe and rational method for the relief of retention and incontinence due to hypertrophied prostate.

Case of Foreign Body Removed from the Female Bladder.

Calculus of the bladder is not uncommon but this specimen is so unique that an apology for its presentation is therefore not necessary.

This specimen was removed by me two weeks ago by the usual suprapubic route

from the bladder of a middle aged widow lady who had been treated for supposed kidney trouble by a country doctor up the state.

Not finding relief after a prolonged course of treatment she consulted Dr. R. Kunitzer of this city who recognized that she was suffering from a bladder-calculus and referred her to me for surgical treatment. An examination with the Thompson's searcher elicited the classical signs of stone in the bladder. A cystoscopic examination revealed a moderate sized calculus and a darker object the true character of which could not be definitely determined on account of the marked turbidity of the fluid in the presence of a severe form of cystitis.

The patient was obliged to urinate every few minutes both day and by night and at times was suffering most excruciating pain in the lumbar and hypogastric regions.

On November the 30th I made an opening in the bladder through a suprapubic incision and removed this bougie which was found almost entirely covered with phosphatic concretion and ending at either end in an olive shaped calculus formation. The base of the bladder was covered with calcareous deposit in which the middle portion of the bougie had become quite adherent. After a thorough cleansing of the bladder mucosa the wound in the bladder was entirely closed with two layers of fine chromic gut sutures. The rectus and its sheath as well as the skin were then united and a small rubber tissue drain inserted at the lower angle. The bladder was drained for three days by a catheter introduced through the urethra. The patient was out of bed on the sixth day and the wound entirely healed on the tenth day.

A few days subsequent to the operation the patient confessed that some eight months

ago a midwife had attempted to help her out of some "difficulty" and that since that time she had been suffering more or less from the symptoms referable to the bladder.

I feel satisfied that no other method could have given a better result than the one pursued in this instance. Of the various methods at hand of removing calculi from the bladder in the female the decided advantages of the suprapubic route were demonstrated in this case. To have attempted to remove this calculus per urethra would have undoubtedly resulted in serious and possibly permanent injury to the urethra. The use of the lithotrite would have been in this instance on account of the nature of the makeup of the calculus entirely useless and unsatisfactory. A vaginal section in the presence of such marked cystitis and the base of the bladder encrusted with calcareous matter could only have resulted in a vesico-vaginal fistula with all its evil consequences such as incontinence, constant dribbling of urine and excoriation of the tissues.

In conclusion I will say that the suprapubic route has a most decided advantage in that it affords unlimited opportunities for performing any work undertaken on the bladder. The bladder can if need be completely bisected without entertaining any fear for the safety of the patient, even if the incision must be extended to render it intraperitoneal.

This method is now being taken advantage of by the leading surgeons and gynaecologists.

DISCUSSION.

Dr. Ladinski said that among the cases of vesical calculus operated by him, he recalled one case seen about 13 years ago that resembled Dr. Goodman's case.

The patient was a young widow who had been suffering from what was supposed to be metrorrhagia, and was treated accordingly by

women physicians for over a year. Vaginal examination revealed a mass in the bladder, which was confirmed by the sound as a stone. The urethra was dilated by Kelley's instrument and the stone removed. On introducing the finger into the bladder, it was found that the stone was incrustated around a hairpin, with the open ends embedded in the wall of the bladder, near the urethral opening. This required greater dilatation of the urethra than would have been necessary for the stone, which was of the size of a walnut, and the patient had a long siege of incontinence and dysuria afterwards, but finally recovered completely.

As regarded the route of entry into the bladder, Dr. Ladinski thought each case should be treated on its individual merits, and would depend largely on the size and character of the stone. His personal choice was in the following order: (1) Dilatation. (2) Vesicovaginal resection. (3) Suprapubic, if the case was complicated, or the size of the stone required the upper route.

In suspected fracture of the vertebræ manipulate as little as possible. The determination of crepitus is not necessary to establish the diagnosis.

In tapping the abdominal cavity and removing a large amount of fluid, remember to stop the flow every few minutes to permit the adjustment of the blood pressure. Too rapid reduction of abdominal pressure has often led to fatal syncope.

NERVOUS DYSMENORRHEA. — Professor J. Veit (*Münch. Med. Wochens.*, November 24, 1908) recognizes a nervous form of dysmenorrhea which does not demand local measures, but general treatment addressed to the nervous system, combined in some instances with the correction of such abnormal conditions in the nose as have been shown to bear a causative relationship. It has been his custom in all virgins with dysmenorrhea to determine the possible existence of neurasthenia, and if present to direct treatment to this, following it, if necessary, by the removal of any diseased conditions in the nose. If, however, such treatment does not soon give positive results, or if neurasthenia be absent, then an examination of the genitals should be made and any existing local conditions removed.—*Int. Jour. of Surgery.*

ETIOLOGY AND DIAGNOSIS.

The Early Diagnosis of Uterine Cancer¹.

—Wakefield thus summarizes his very comprehensive paper:

1. Every woman should be examined by her accoucheur, after uterine involution has taken place, to ascertain if any material injury to the cervix has resulted from the labor; and if material injury is found, the cervix should either be repaired at once, or the patient required to present herself for examination once or twice a year, so that repair may be advised before the patient's future is menaced, should chronic inflammatory changes supervene.

2. All chronic lacerations of the cervix with concomitant inflammatory sequelæ should be repaired at once; all chronic inflammations of the cervical or corporal mucous membrane should receive appropriate treatment; all interstitial or submucous tumors of the uterus should be removed.

3. Physicians should keep themselves constantly mindful of their responsibility in the matter. A small piece of tissue should be excised from any suspicious looking patch on the cervix and subjected to histologic study, even though no symptoms pointing to cancer are present. All abnormal hemorrhages should be thoroughly investigated, and, if no cause is evident on ordinary examination, the uterine cavity should be thoroughly curetted and serial sections made of the pieces of mucous membrane thus obtained, in an effort to prove or disprove the presence of adeno-carcinoma of the body or upper cervical canal.

4. Women should be educated to understand that danger attends the neglect of cervical injuries and chronic uterine inflammations; that every woman who has borne children may have such injury or such inflammation; that it would be wise for all women thus informed to ascertain from some competent physician whether any pelvic condition exists that would menace her future. Indeed, women would subserve their own best interests if they would make annual or semiannual visits to some good, wise physician, as a prophylactic measure, during the cancer period.

5. Women must be taught that excessive bleeding is never a coincident of the normal menopause, but is a symptom of great import, which should be immediately investigated.

6. A cancer committee should be appointed by the presidents of our different state medical societies, the duty of which will be to study the question generally and evolve the best means of keeping the profession in touch with the subject and furthering, in some dignified and practical way, the dissemination of such knowledge as should be possessed by intelligent women.

The Determination of Acetone in the Urine.¹

—There are two tests for acetone in urine—namely (1) the iodoform test, and (2) the sodium nitro-prusside test. Of these the former is the more frequently quoted, but the latter is the more easy of application in practice. The main objection to the iodoform reaction is the necessity for concentrating the acetone by distillation of the urine before the test can be applied with any degree of certainty; but after distillation the iodoform test is probably the better of the two. A solution of iodine in potassium iodide is added drop by drop to, say 10 c. c. of the urinary distillate in a test tube, the latter being warmed gently meanwhile; if acetone is present, iodoform is formed, and it is recognized both by its smell and by the appearance of the yellow crystals that will be obtainable from the solution.

The sodium nitro-prusside test, on the other hand, is a colour reaction, and serves to detect acetone with sufficient accuracy for clinical purposes even without preliminary distillation of the urine. A good way of performing it is to have two test tubes, one of which is quarter filled with the suspected urine, whilst an equal quantity of a normal urine is poured into the other. To both tubes one now adds a few drops of strong caustic soda solution; there may be no change in the contents of either test tube, or there may be a milky turbidity due to the precipitation of phosphates. To each is now added, drop by drop, some saturated

¹W. F. Wakefield, M. D., San Francisco, Cal., State Jour. of Med., Nov. '08.

¹The Hospital, Oct. 3, 1908.

solution of sodium nitro-prusside, until a good red colour is produced in the upper part of the fluid. It is well not to shake up the tubes, so that the lower portions of the contents of each may serve as colour-comparisons. The red colour will appear in both the normal urine and in that which contains acetone; it is produced by the creatinin in healthy urine. Upon now adding glacial acetic acid drop by drop to each test tube, however, the red colour in the normal urine will be discharged, whereas in the urine which contains acetone the red colour, far from being discharged, becomes deeper and deeper, until the fluid is of a rich red. This reaction is very easy indeed to obtain, and it is very striking.

Diacetic Acid.—It is possible for a urine to contain much diacetic acid and little or no acetone, hence it is always advisable to test for diacetic acid as well as for acetone. Moreover, if both reactions are positive the diagnosis of acetonæmia is more certain than if acetone alone is tested for; and the absence of acetonæmia is better established when the urine is known to contain neither acetone nor diacetic acid. *Liquor ferri perchloridi* (B. P.) should be added drop by drop to a test tube half-filled with the urine. The first few drops of the solution cause a dense white precipitate of phosphates; later, as more and more is added drop by drop, a red, reddish brown, or reddish purple color is produced if diacetic acid is present. The tint is very variable, and according as there is much or little diacetic acid in the specimen it may be either quite pale red on the one hand or deep Burgundy colour upon the other. A similar, but much more purple, colour is given by the urine of a patient who is taking salicylic acid, or one of its compounds, such as sodium salicylate, or aspirin.

Test for Indican in the Urine.—Daland's method of testing for indican in the urine is as follows:

"To 10 c. c. of filtered urine add 1 drop of a 1-per cent. solution of potassium chlorate, then 5 c. c. of chloroform, and lastly 10 c. c. of pure fuming hydrochloric acid (sp. gr. 1.19). It is needful to add the reagents in the order named, and to mix the contents of the test tube by repeatedly pouring the contents from one test tube into another." If the contents of the test tube be

now permitted to settle, the chloroform will be found at the bottom, colored blue with the indigo, and after some time the indigo will crystallize out in small cubes with rounded corners. If the whole of the twenty-four hours' urine has been used, and the amount of the *indican* is at all considerable, the amount of *indigo* may well be ponderable: in one case, by no means a bad one at that, 23 mg. of *indigo* was thus obtained, as the *equivalent* for the twenty-four hours' *indican* excretion.

Black Urine.—The depth of color of urine (*Denver Med. Times*) varies inversely with the quantity, and is markedly affected by the character of diet; thus meat and strong coffee render it dark, while milk and carbohydrates give a lighter hue. Many drugs likewise tend to give a deeper color to the urine, particularly on standing (becomes alkaline) and oxidizing, or on the addition of some oxidizing agent, such as ferric chlorid. The phenol derivatives (carbolic acid, cresol, sabol, creosote, guaiacol, tannic or gallic acid, arbovin, resorcin, naphthalin, uva ursi, arbutin, etc.), owing to their pyrocatechin content, give the urine a smoky brown to firenish-black tint; and much the same color is noted in poisoning with trional or sulphonal (hematoporphyrin), cyanids or arsin. Senna and most other vegetable purgatives render the urine brown when acid.

In hematuria and hemoglobinuria (malaria, scarlet fever) the urine may be smoky or even black. Alkapton is probably a derivative of tyrosin, and alkaptonuria is often observed in brothers and sisters. In persistent jaundice and pernicious anemia (pathologic urobilin) the urine may be dark brown. Black urine has also been noted in melanotic sarcoma, marked indicanuria (disappears on precipitating with milk of lime), and in some cases of phthisis (after urine has stood a long time).

No treatment of a chronic otitis media is complete without proper attention to the nasopharynx.

TREATMENT.

Renal Lavage¹—Garceau concludes his valuable paper as follows:

1. Renal lavage is but seldom required, and it should not be used indiscriminately. There must be careful deliberation before resorting to this method of treatment, and the patient should have been under observation a considerable length of time before the treatment is proposed.

2. Acute cases are not suitable for this method of treatment.

3. Thorough free drainage of the kidney through the ureter must be secured before permanent relief can be expected.

4. The most suitable cases are those of simple chronic suppurative pyelitis without obstruction, but these cases are very rare, and, unless the germ is a very virulent one such patients usually get well in the course of time.

5. The method may be used in an endeavor to cure inflammation in a hydro-nephrotic sac as a preliminary to nephropexy, but the kidney should be supported meanwhile by an appropriate apparatus.

6. It will at times get rid of the infection in pyonephrosis, but this rarely occurs. It should never be permitted in severe pyonephrosis with general systemic infection.

7. A permanent catheter in the ureter is very dangerous, especially in the presence of acute infection with general symptoms.

8. The treatment does little or no good in a case of ureteritis with marked tissue changes in the ureter leading to sclerosis and thickening.

9. Renal lavage is seldom followed by any serious harmful sequelæ.

10. Enough cases have not yet been reported to give a definite standing to the treatment.

11. Further trial is needed.

The Treatment of Intestinal Indigestion.²—The treatment of intestinal indi-

gestion is based upon the pathological findings and will vary with the cause of the condition and the degree to which the various factors mentioned contribute to the result. The choice of a suitable diet is the first consideration. The guide to this is the result of the examination of the fæces, from which may be learnt the types of food that are undigested and are contributing most to the irritation of the intestine. The meals should be arranged so that there is the longest possible interval between them in order that the digestive organs may be given a maximum amount of physiological rest, and if one meal is made as far as may be carbohydrate, while the next is chiefly protein, this end is contributed to. Foods rich in proteins are to be recommended in cases where the production of hydrochloric acid is found to be excessive, and in these cases, too, an eggspoonful of a mixture of equal parts of sodium bicarbonate, magnesium carbonate, and calcium carbonate after meals, or 1 to 3 parts of hydrogen dioxide in 200 to 300 cubic centimetres of water in the morning, fasting, as suggested by Petri, are also useful in controlling the hyperchlorhydria.

In cases where the bacterial element predominates and there is evidence of toxæmia the use of butter-milk, or, better, of a preparation of milk "soured" with a reliable culture of the Bulgarian lactic acid bacillus, often gives very good results. In some cases, however, the milk has appeared rather to aggravate the intestinal discomfort and has had to be given up. In several instances I have been able to relieve the toxic symptoms by inoculations, or the administration by the mouth on an empty stomach, of vaccines prepared from cultures of the predominant organisms in the fæces. Castor oil or calomel in doses of from one to four grains is a useful preliminary to other treatment, and I always advise that a blue pill and black draught should be taken at the commencement of the treatment and once a month afterwards, even after the symptoms have subsided.

Where the results of the "pancreatic" reaction in the urine and the analysis of the fæces point to involvement of the pancreas the cause of the pancreatitis must first be determined. Pancreatitis is never

¹ Edgar Garceau, M. D., Boston, Jour. A. M. A., Jan. 23, 1909.

² P. J. Cammidge, M. D., London Lancet, Jan. 23, 1908, p. 225.

a primary disease, although the symptoms to which it gives rise may be the dominant features of the case, and to attempt the cure of the pancreatic condition without at the same time treating the cause is to labour in vain. If infection of the duodenum and pancreatic ducts is present the treatment of the former should be undertaken along the lines already indicated. The most useful drug for dealing with the infection of the pancreatic duct and biliary passages is undoubtedly urotropine. I have seen cases that have cleared up in a week or ten days after commencing to use it. As it is somewhat irritating and may therefore possibly increase the inflammatory reaction in the pancreas when given in large doses, I usually prescribe 5 grains, well diluted, three times a day. Salicylates, too, are of use in these cases as they also are excreted by the pancreas and exert an antiseptic action on the contents of the ducts, but they do not appear to act as quickly or efficiently as urotropine.

In the more chronic cases, with marked disturbance of the functions of the pancreas, medicinal treatment may prove of no avail and resort must then be had to surgical measures, the infected ducts being drained through the common duct and gall-bladder by the operation of cholecystotomy or cholecyst-enterostomy.

The early recognition and treatment of intestinal indigestion are primarily important because of the discomfort the condition causes the patient and also because of the interference with nutrition that it brings about, but the complications and sequelæ that are liable to occur in chronic cases are of no less moment. Toxæmia may entirely unfit the patient for any occupation involving mental strain or concentration, and one finds that a considerable number drift into that somewhat heterogeneous group of cases provisionally labelled "neurasthenia." A remote consequence of chronic intestinal indigestion, but one which I am convinced is not to be despised, is the ultimate occurrence of diabetes. This is apparently due to involvement of the pancreas in the disease and although we do not at present know for certain why some cases of chronic pancreatitis due to infection of the ducts should develop glycosuria, while other, and

apparently quite similar cases, do not, the fact remains that it is not a negligible possibility. The progress of the disease is usually slow and although I have notes of several cases in which glycosuria has occurred within a year or two of the first appearance of the symptoms of intestinal indigestion others have dated back the initial attack 10 or 15 years. I have for some time maintained that the treatment of diabetes is to a large extent prophylactic, and I believe that in the early treatment of disturbances of the chemistry and bacteriology of the upper intestine lies, at any rate in part, the solution of a difficult problem.

The Abortive Treatment of Colds.
—The abortive treatment of colds (*Jour. A. M. A.*) with so-called rhinitis tablets, while perhaps the best treatment when the patient must be exposed to further chilling or more dust and must keep at his occupation, seems theoretically inadvisable in the first stage of nose and throat inflammation. The main action of these tablets is the atropin action, unless the patient is somewhat prostrated by the aconite or aconitin that they contain, hence the drying up of the mucous secretions of the congested nose and throat by atropin should theoretically tend to prolong the first stage and perhaps thus prolong the second stage, as the free exudate from the inflamed mucous membrane is Nature's best method of depletion of these congested areas. Therefore, a patient housed and willing to give from ten to fifteen hours to the best abortive treatment of an acute cold should not receive rhinitis tablets, while a patient who must attend to his business may take these tablets, but ordinarily not for more than from twenty-four to forty-eight hours. A good rhinitis combination is as follows:

Rx	gm.	
Aconitinæ	00003	gr. 1-2000
Atropinæ sulphatis	00015 or	gr. 1-400
Strychninæ sulphatis	00006	gr. 1-100
Morphinæ sulphatis	002	gr. 1-30
M. et fac tabletam, 1.		

The best method of administration of the above tablet in one every hour for three doses, and then one every three hours. From ten to fifteen tablets may be given a patient for such use.

Treatment of Chordee.¹—If, says Huhner, we have a case of chordee nothing acts so well as the following prescription (after Taylor):

R Ex. belladonæ.... 2 gr.
Ex. opii aq..... 6 gr.
M. et fiat suppos. No. 6

"I instruct my patients to insert one in the rectum about three or four hours before retiring, one just before retiring, and one if awakened by the chordee during the night. This prescription generally acts like magic. The pain either does not appear, or if it does it is much less severe. If so treated the chordee generally has entirely disappeared by the third night. I also wish to emphasize the fact that these suppositories are only used symptomatically and not curatively, and are reduced in frequency or dispensed with entirely as the chordee gets less and disappears. I might add in passing that these suppositories may be used with excellent results in acute prostatitis and also in acute cystitis with marked tenesmus and frequency of urination.

The chordee has a decided tendency to become less severe and to disappear by itself whether treated or not, and the same remarks are applicable concerning the use of newer remedies for it as has been made about the treatment of burning urination."

The Value of the Inunction Method of Administering Drugs to Children.²—

Rachford insists that this mode of treatment is more efficacious in children than in adults because of the following reasons: 1. In infants the surface of the skin in proportion to the body weight is four times greater than in adults, the increased blood and lymph are favoring absorption with reappearance in the urine, fæces, bronchial mucus, etc. 2. In infants the vaso-motor mechanism is much more responsive to reflex stimuli than in adults, the capillary circulation being made much more active by the application of heat and friction. 3. All lymphatic structures in the child are more active than in the adult, and functionally more

important. Medicines easily pass into the lymphatic circulation. 4. Nutritional problems in the treatment of disease in children are relatively more important, hence the stomach and intestines should be reserved for food if possible. 5. Diseases which are accessible by inunction are more common and more severe in children than in adults. 6. Experiments prove that medicines may be introduced into the circulating media of the body more readily in infants and young children than in adults.

The Treatment of Impetigo.¹—A. *Ordinary Impetigo.*—1. Remove crusts gently but repeatedly. (They contain pus cocci in abundance.)

2. Disinfect base of pustules with tampons soaked in 1 per cent bichloride solution.

3. Use a dessicating paste: sulphur 10 per cent, zinc oxide 10 per cent, kaolin 10 per cent, in ungt. aq. rosae, with perhaps 3 to 5 per cent of ichthyol added. Or use white precipitate ointment, 1 to 3 per cent for younger, and 5 per cent for older children.

B. *For the generalized eruptions* (impetigo neonatorum and impetigo herpetiformis):

1. Isolation. 2. Hot baths, especially with cort. quercus (500.0 to 4 liters of water) or starch baths. 3. Ointment treatment as for commoner forms. 4. General symptomatic treatment.

Adrenalin Treatment of Infective Diseases.—Hodick (*Brit. Med. Jour.*) recommends in the treatment of septic peritonitis marked by collapse and low blood pressure, an injection into the median basilic vein of six to eight drops of a solution (1 in 1000) of the extract of adrenalin added to about one and one-half pints of physiological saline solution. These injections worked marvelously in Heidenhain's clinic during the past two years and they have been injected after abdominal operations, thus preventing the post-operative effects such as cyanosis and low pulse.

¹Max Huhner, M. D., New York Med. Record, Jan. 23, 1909, p. 169.

²B. K. Rachford, M. D., Am. Jour. of the Med. Sciences, Jan., 1909.

¹W. S. Gotthell, M. D., Med. Fortnightly, Dec. 25, 1908.

SOCIETY PROCEEDINGS.

EASTERN MEDICAL SOCIETY OF THE CITY OF NEW YORK.

Stated Meeting, February 12, 1909, the President, Dr. Wolff Freudenthal, in the chair.

The regular monthly meeting of the Eastern Medical Society was held on February 12, 1909, the President, Dr. Wolff Freudenthal, presiding. The following cases and case reports were presented:

(a) *Congenital Pyloric Obstruction in an Infant*, by Dr. M. O. Magid. This was discussed by Drs. Louis Fischer, Joseph Wiener, A. Gordon and Anthony Bassler.

(b) *Primary Tuberculosis of the Conjunctiva*, by Dr. Erwin Torok. This was discussed by Drs. Cohen, Freudenthal and Torok.

(c) *X-Ray Picture of Cyst of Inferior Maxilla*; also series of *X-Ray Pictures Showing Result of Nailing Humerus for Mal-union*, presented by Dr. Jos. Wiener.

Dr. Wm. W. Lesem then read a paper on *Epilepsy and the Brachides*. This was freely discussed by Drs. Wm. M. Leszynsky, Rosenbluth, Neustaedter, S. P. Goodhart, J. Barsky, M. M. Stark, Rothenburg and others.

The next paper was *The Principles and Technic of the Serum Diagnosis of Syphilis* (Wasserman's Reaction) by Dr. Howard Fox. This was discussed by Drs. Morris Stark, Kaplan and Fox.

The following physicians were recommended by the Executive Committee and elected to membership: Drs. David Bader, Ernst Danziger, A. B. L. Kahn, C. E. Perkins, S. L. Sohn, G. Wulfahrt and J. N. Zlinkoff.

The meeting then adjourned to partake of a generous collation by invitation of Drs. J. Barsky, A. F. Hess and Erwin Torok.

(The above papers with full discussion will appear in the March number of AMERICAN MEDICINE.)

In suturing the tongue always use a buried suture of non-absorbable material.

In fractures of the upper third of the humerus do not fail to examine for dislocation of its head.

GENERAL TOPICS.

Another Staff of Moses.—The proprietors have no monopoly of magic cures. There is Mrs. Eddy; there is Dowieism, and there are even the United States Pharmacopeia and the National Formulary! The chasm between these is wide and deep, but misguided enthusiasm can construct a bridge almost anywhere. It is more than a little unfortunate that the impression prevails so generally that pharmacopeial prescribing (and for convenience I shall use the term pharmacopeial to cover also the National Formulary) is the magic cure for all therapeutic ills. This impression has been fostered especially by pharmacists; some well-meaning, as the American Pharmaceutical Association; some, doubtless, rather self-interested, as the National Association of Retail Druggists. The movement toward pharmacopeial prescribing deserves every encouragement if it is intelligent, it deserves condemnation if it is blind.—Sollman, *Jour. A. M. A.*

Success.—And so, let us fight on—fight to win that success which is always just ahead. The struggle for the unattainable has ever been a struggle for the ideal. Striving for the ideal is what has raised mankind from its old place among the cattle—and the flies.

If I were asked for a definition of a successful man, I should say: "A successful man is he who has done the best he could with such material as nature gave him." And yet, this standard would be for the world, not for the man himself. As I said before, by the true standard—one's own opinion of himself as a success—there are no successful men. And this is well for the world though hard for the individual.—*Lydston.*

In injuries of the skull, bear in mind that fractures often occur opposite to the side of injury.

In suturing wounds of the face use a round cambric needle and do not draw the stitches too tight.

NOTES ON MODERN PHARMACEUTICAL REMEDIES.*(Continued.)***MAGNESIUM PEROXIDE.**

Description: Magnesium peroxide (MgO_2) is a tasteless white powder, slightly alkaline in reaction and soluble in an acid medium.

Formula: As marketed and used in medicine this product is a compound of magnesium peroxide, magnesium hydroxide and constitutional water. The available oxygen ranges from 7 to 8 per cent.

Action: Like all of the alkali and earth alkalies, magnesium peroxide is an oxidizing agent. It is non-toxic and can be used internally. Its action is similar to that of the bismuth salts, to which is added the recognized virtues of pure oxygen. In the alimentary canal magnesium peroxide acts as an antiseptic, and disinfectant. On mucous membranes it is non-irritating and antiseptic. Its released oxygen also stimulates cell activity and promotes the processes of healing.

Uses: Magnesium peroxide because of its pronounced bactericidal properties is highly recommended as an intestinal antiseptic. It has been successfully used internally in typhoid fever, gastro-enteritis, intestinal fermentation, gout, rheumatism, auto-toxemia, and similar disorders. Locally it is a valuable dusting powder in purulent or ulcerated wounds. It has also proven of value for sterilizing drinking water and milk.

Dose: One-half to two drachms internally p. r. n.

Special Considerations: Non-toxicity, oxygen liberating properties, antiseptic value and healing action on sluggish wounds.

Manufacturers: The Roessler & Hasslacher Chemical Co., New York City.

ALETRIS CORDIAL RIO.

Description: This is a dark wine-colored elixir of aromatic taste and odor.

Formula: Each fluid ounce represents:

Aletris Farinosa,	gr. 10
Helonias,	gr. 30
Scrophularia,	gr. 30
Aromatics, q. s.	
(Alcohol, 28 per cent.)	

Action: Aletris Cordial Rio is a uterine sedative. It is claimed to relieve spastic and congested conditions by its relaxing influence on the utero-ovarian circulation. In this way, it is said to contribute to the establishment of normal functions and promote local nutrition. It controls pain and soreness, and facilitates the menstrual flow when functionally deranged.

Uses: This preparation is recommended in all spasmodic conditions of the uterus or ovaries. In all forms of dysmenorrhea it has been successfully employed, and in amenorrhea or suppression of the menses due to congestive or nervous causes it gives satisfactory relief. It is also claimed to have specific value in Subinvolution, Habitual Miscarriage, Menorrhagia, Metrorrhagia, Endometritis, Afterpains, Irregular Menstruation, at the Menopause, Vaginismus, Ovarian Congestion, and Inflammation and related conditions.

Uses: Aletris Cordial Rio should be administered a teaspoonful in water—preferably hot—every 2, 3, or 4 hours as indicated by presenting conditions.

Special Considerations: Non-secrecy, high quality, uniform strength and therapeutic efficiency.

References:

- Garrigue's Gynecology, page 112.
MacNaughton Jones (England), Diseases of Women and Uterine Therapeutics, 7th edition, page 160.
Dr. M. Luther Spriggs, Joplin, Mo.
Dr. Grace M. Norris, B. S., M. D., South Columbia, N. Y.
Dr. John Moir, L. R. C. P. R. C. S., (Edin.) London, England.
Dr. C. W. Canan, M B. B. S., Ph. D., Orkney Springs, Va.
Dr. John Coulson Howie, M. A. M. B., C. M. L. M., Glasgow, Scotland.
Dr. W. W. Grube, A. M., M. D., Toledo, Ohio.
Dr. Carl Peters, now of Eisenach, formerly of Gsolar, Germany.

Manufacturers: The Rio Chemical Co., 79 Barrow St., New York City.

American Medicine

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PUBLISHED MONTHLY BY THE AMERICAN-MEDICAL PUBLISHING COMPANY.

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Complete Series, Vol. XV. No. 3.
New Series, Vol. IV, No. 3.

MARCH, 1909.

\$1.00 Yearly
In Advance.

The reform of expert testimony is now so urgently demanded by psychiatrists that it should not be a difficult matter to accomplish, particularly as they seem to be unanimous as to the general plan. The last important publication on the subject is that of Dr. Geo. W. Peabody of New York (*N. Y. Med. Jour.*, Mar. 7, 1908) and it is so sane and wise a paper as to deserve earnest study by judges, lawyers and law makers as well as physicians. His plan applies merely to psychiatric experts but of course to be practicable it must be made of general application to include all other experts needed to assist the court or jury in understanding testimony given by the witness as to fact,—chemists, engineers, surgeons and indeed any one of special knowledge who can explain what might be Greek to the judge and jury. The general idea is to have the expert called by the court, independent of both prosecution and defense, to be placed in possession of all the facts, to render his opinion in his own way and not to be held down to a few questions or the preposterous "hypothetical" case. At present the expert frequently leaves the stand knowing that he has not given his exact opinion, but merely exact answers to some questions skillfully put to conceal or minimize or exaggerate opinions. It may not be practicable to have a body of "physicians to the court" to the exclusion of all other experts, for any kind of specialist

may be needed at any time, though of course the alienist is in most frequent demand.

Courts are notoriously conservative. Of course there will be the usual objection that it is impossible to adopt anything unheard of in the old English law we inherited, but if there is any man on the bench who asserts that legal methods must not change and that courts must adhere to old ways no matter how archaic, he had better get off before he is declared a nuisance. If all judges had been of that frame of mind we would still have the "trial by combat" in which the two parties had to fight it out physically and the victor was decided to be the innocent party no matter what the evidence. Conservatism is still keeping a foolish archaic definition of legal insanity or rather responsibility, to the great injury of justice. It is high time that the whole procedure as to such trials be changed. The present methods not only hamper the elicitation of the whole truth, but lead to those unhappy exhibitions of partisanship which have led to the axiom of lawyers that they can buy any kind of expert testimony they desire—a cynical reflection upon the whole profession, and a most unjust one too, because experts are honest and no matter how they may differ in opinion they do not differ nearly as much as lawyers do in their in-

terpretations of both law and fact. The whole wretched business must be ended by making it possible for only one kind of opinion to be purchased—an impartial one secured by the court. Let each side have all the experts it needs to assist the attorneys—that's a democratic safeguard we cannot surrender—but they must be kept off the witness stand.

It is very gratifying indeed, to learn that in a very recent case the attorneys themselves petitioned the court to appoint an expert to examine into the facts of an alleged railroad injury—a kind of legal case almost as scandalous as the insane.

A code of ethics for lawyers has been proposed by a committee of the American Bar Association, after a study of the codes already existing in about half the states, but based upon that adopted by the Alabama State Bar Association in 1887. This action is one which the medical profession might well ponder, because a solemn oath is proposed for admission to the bar—and perhaps also means may be later taken to eliminate from the profession those who violate the oath or any canon of ethics. The medical code is more of an expression of what one ought to do or avoid doing and no penalties attach to a violation of its principles.

The ancient oath of the Greeks is such a refinement of extreme altruism as to be positively injurious to the physician and perhaps for this reason it fell into disuse, but since the best and highest legal minds have devised a modern oath for the legal profession, it naturally suggests that we would do well to revert to the method of the Greeks and exact a modern form of oath as a prerequisite for a license to practice.

The necessity for a legal ethical code is stated to be to free the profession from censure resulting from the misconduct of unworthy members. The canons certainly show why a lawyer may defend those whom he knows to be guilty, otherwise we might revert to the times when the accused were presumed to be guilty and refused counsel—a system which led the innocent to the stake for witchcraft. At the same time it is distinctly shown that the practice is solely to assure to the accused that he will not be deprived of life or liberty without due process of law. Many a successful though unworthy lawyer seems to think that his duty is to clear the accused, and those who have the greatest record of acquittals of defendants seem to be in the highest favor, in and out of the profession, notwithstanding the clear statement that the end of the lawyer's duty is to prevent injustice and not to prevent justice. The machinery for disbaring those who resort to criminal methods has had a steadying influence on all lawyers probably as efficacious as a code of ethics, and it has long been thought that a similar system to drive unworthy physicians from practice would be an improvement over present conditions. Yet the pecuniary success and huge practice of many a quack shows that public opinion will not support any radical measures, and that we cannot count on the support of the lawyers themselves.

The revision of the medical code has often been suggested, but nothing radically different has ever been published that has found sufficient favor to be adopted. It seems to be the survival of the fittest, yet the opposition to it does seem to indicate that a shorter, more modern form would be more acceptable and

make an oath possible, with some penalty for violation. If it is taken for granted that a physician's human instincts compel him to do the utmost to relieve distress and save life, the only question is the best way to do this with the least harm to one's self. Experience shows that the best ways in the long run, are markedly different from the ways laymen adopt in the material affairs, so that the legal and medical codes really have little in common. Nevertheless a comparison of the two will be valuable for both, and the lawyers in their present move are probably doing a lasting service to the medical profession—one which may lead to radical changes to purify the ranks.

A new danger in the Emmanuel movement is the assumption by laymen that they are possessed of medical knowledge which justifies them in criticising theories upon which even the most experienced physicians are reluctant to judge. This is shown by an amazing letter in the *N. Y. Times* of Feb. 21, over the signature of Prof. Dickinson S. Miller, Professor of Philosophy in Columbia University, in which he refers to Worcester's statement that the *vis medicatrix naturae*, "must work through the instrumentality of the nervous system,"—an opinion which must be wormwood and gall to the members of the medical faculty of that University who are working on problems of immunity and cure. It is also amazing that it should be stated that the use of a belt for enfeebled conditions is "merely an item upon which doctors disagree," and rather interesting to be informed that "all the symptoms of neurasthenia can be referred to a dissociation," as we were under the opposite impression. The more the Emmanuel movement is de-

fended by laymen, the more defense it needs. Since a lay member of the faculty of the university stands sponsor for a medical system already known to be harmful, it is quite time that the medical members be heard from. Perhaps they have interesting views on philosophical matters, though it is doubtful if they consider them of sufficient value to publish, yet it does seem that they should support Professor Miller if he is correct. We regret that he should have denounced as "absolutely false" the statement that the movement tends to check the search for causes of purely "spiritual" cases, which the examining physicians confess they can not cure as well as the priest can—a confession, by-the-way, which the body of the profession resents as incorrect.

The sanitary advantages of wet weather are not quite obvious to all of us, and perhaps if we could order the style we would one and all insist upon having it as dry as a bone. Nevertheless the Chief Registrar of England recently explained the phenomenally low death rate in 1907 as largely due to the cool and wet summer which he states was exceptionally favorable to infants. On our Northwest coast it has long been noted that the healthiest time is the rainy season, and that a long period of dry weather is not only decidedly distressing but sickly, too. These facts must be taken to heart by climatologists, and not ignored in the manner we are so prone to treat the heterodox. Those physicians who are advising all patients to seek a dry climate should be sure they have data which leave no doubt that the dryness has been advantageous in such cases. Dogma will not do in this age. If wet weather is really health giving and

life saving, in all conscience let us send invalids to wet climates and give the dry ones a long needed rest. Of course the invalids will be deprived of sunshine, but many physicians are protecting them from that anyway.

Premature announcements are characteristic of mental cults and have resulted from the exaltation invariably associated with them, as in the remarkable reports from Lourdes.

There has been considerable indignation voiced as to the claims of Emmanuel "cures" when sufficient time has not elapsed, as in alcoholism for instance, of which cases are reported "well" after six months, though it is a well known fact that many incurables will have much longer periods of abstinence under any of the usual methods of management. We must not forget the poor sufferer who a few years ago so strongly and persistently published his recovery by the "gold cure," but who died of a debauch while his articles were being printed. We must expect equally deplorable results as time develops them. The mental exaltation so evident in the devotees of the new cult, has already given rise to grave apprehension, and it may explain the optimistic reports and the distorted claims which creep into press reports to waken false hopes in other sufferers.

A London attack on American meats has recently been made by the medical officer of that port, who states that in a shipment received February 2, he found quite a high percentage of diseased organs of sheep, though they had been officially inspected and passed on this side. We trust that the report will be promptly taken

up and shown to be incorrect, or if there is the slightest ground for it, the careless or guilty inspectors be removed. The system has been working so satisfactorily that we have been assured that exports are really safer than meats slaughtered and sold locally, over which the Federal inspectors have no control.

European conditions are known to be bad, for even tuberculous meat is sold from private abattoirs without inspection.

American exported meats are really more wholesome than English or German, is the conclusion of Dr. Harvey Littlejohn, Prof. of Forensic Medicine in Edinburgh University (U. S. Consular Report, June, 1907) who found our packing houses in a highly satisfactory condition, though he expected to find them vile. He stated that he preferred such meats to those from private or municipal abattoirs in Europe, particularly the English whose inspection was imperfect. He mentioned the fact that though millions of cans of American meats are yearly eaten in Europe, the cases of ptomaine poisoning could be counted on one's fingers. Sir James Crichton-Brown later, in his presidential address to the Sanitary Inspectors' Association, referred to the bad conditions in England; saying that "if Chicago had its jungle, London had its dismal swamp." The British War Department also inspected our methods and issued instructions for the use of our meats in lieu of the freshly killed. We cannot therefore understand this new attack, unless it is a trade matter. It is important to know the truth, for we must be assured of the wholesomeness of all meats entering into interstate traffic. They have been beyond suspicion, though we cannot say the same of local products in states

having no inspection service, and the frequent reports of sudden illness of travellers show there is need of rigid inspection.

The dangerous Marathon races should be suppressed, and the medical profession must do its share in making known the reasons why such strains may cause permanent damage. One of the ancient contestants died at the moment of victory, and the modern races have been signalized by many serious cases of heart strain or acute dilatation not fatal, particularly in undeveloped boys. It has been stated that youths will hereafter be excluded, but it is a strain to which no human being should be subjected. Indian runners make longer journeys but it is generally at low pressure, and it is a matter of training from infancy, but even in them we cannot safely say it has proven harmless. Many a white boy now training for Marathon races is causing permanent injury to heart and arteries which is sure to wreck him twenty or thirty years hence, when he loses his ability to "compensate." Let all parents be warned to forbid any athletic exercises which cause undue and prolonged heart strain.

The nervous exhaustion of athletes is another cause for condemnation of great efforts. The "stale" athlete is not the only one exhausted and there is a beginning apprehension that all "training" is dangerous business. It is regrettable that such excesses exist, for it is of the utmost importance that the young should be given ample opportunities for much activity. Muscular fatigue is not to be dreaded, indeed Dr. Rowland S. Freeman, (*Amer. Jour. of the Med. Sc.*, Nov. 1908) denies that it occurs in New York school children,

though Dr. W. S. Christopher of Chicago, had reported that it shows itself within an hour of the opening of the morning session and progressively increases until the noon recess, the afternoon showing similar conditions. The necessary repression of the school room is the harmful factor which wise teachers frequently relax to avoid a nervous fatigue differing in no respect from that of athletes. Without this outlet the children seem to explode as soon as school is over, and curiously enough this muscular exertion can be made even when mental fatigue is so great that attention is practically in abeyance. While, therefore, the modern movement for play grounds and school sports must be supported as a necessity of urban life, we should sternly repress the all too common tendency to permit or even encourage children to "train" for any great effort, for they will surely be injured by the twin evils of strain and nervous exhaustion. The family physician here has a serious advisory duty.

The Desire for Rest.—A newspaper the other day in commenting on a suicide's sad act, said that no reason was known for the self destruction of the deceased "except that it was possibly a desire for rest!" It was only a simple statement, written doubtless with little or no appreciation of its wealth of significance, and yet, what an indictment of the lives so many are living! One has only to go into the haunts of commerce, to get in touch with the treadmill of business responsibility to learn that the average American citizen is indeed working overtime. We are apt to be proud of our hustle and devotion to our various enterprises, but the way in which we overtax our men-

tal and physical powers is anything but a testimonial to our common-sense. Like slaves we voluntarily chain ourselves to the galley of business cares; for eighteen hours out of every twenty-four to swell our earthly possessions we toil and sweat in ways that make peonage or other forms of servitude almost attractive; and day in and day out we go on fighting the same petty battles, struggling against the same difficulties and plodding along the same old paths with never a moment for play or pleasure.

And all for what?

To some the one great object is money; to others it is fame, while still to others it is simply to immolate oneself on the altar of duty. Sooner or later all of us find out that we are tired and then realize only too well that we have been burning the candle at both ends. But still the mad rush continues until outraged Nature can stand no more—and then “the desire for rest” overpowers us. Not much glory or credit in that, is there? And the worst of it is eight times out of ten there is not even the justification of necessity. The urban toiler, therefore, unless he is satisfied to be a failure, needs to pause once in a while and heed the “desire for rest” while yet it points to pleasanter things than a suicide’s grave.

The boorishness of some English writers

continues to manifest itself with the usual periodicity. The latest exacerbation will be found in the *Medical Press and Circular* for February 17, 1909. In commenting upon the dinner tendered Dr. John B. Deaver of Philadelphia, by those of his colleagues who had been operated upon by him for appendicitis, our bilious contemporary relieves itself of the following:

“America is the chosen abode of freakishness, and in one of its most recently reported essays it has certainly lived up to its reputation. From a New York journal we learn that a Philadelphia surgeon gave a dinner to patients upon whom he had operated for appendicitis. The story tells that no fewer than 160 guests graced this eccentric banquet, a living and eloquent testimony of the skill of their distinguished host. It is to be presumed that he alone would be conscious of the unseen failures who might possibly be hovering in the spiritual atmosphere of the banqueting-room. In any case, the number of operations mentioned can hardly be regarded as excessive for any surgeon who has been for any considerable length of time engaged in operating practice.”

Unfortunately the writer of the foregoing essayed to discuss an occasion concerning which he was only partly informed. Those attending the dinner above referred to were all physicians who had freely—to their everlasting satisfaction—placed themselves in Dr. Deaver’s hands for appendiceal operations. We insist that the number attending this dinner under such conditions was an extraordinary though very fitting testimonial to a surgeon who is peculiarly fortunate in the professional confidence which he has inspired. Without further criticising the manners of our esteemed contemporary, we would respectfully suggest that greater assiduity in ascertaining all the facts concerning a matter to be discussed, would be both seemly and wise in so bold a critic.

Another nasty sling is generously handed to the American people in the following from the same issue:

“The ways that they have in New York City, when compared with the conservative doings on ‘this side,’ possess a *naivete* which is almost comic. It appears that the City Health Commissioner for that great centre has a ‘sanitary squad,’ one of whose latest

duties is to institute prosecutions for spitting in public places. The squad took the aggressive last week, and netted no less than 200 persons who thus offended against hygiene and good taste. The culprits all committed their offences in railway trains and tubes, and we can candidly say that any sanitary squad which a medical officer of health over here turned on to the same job would receive our hearty support. It seems that the regulation against spitting has not been realised by the American public yet, and that it is something of a wrench for them to abandon so old-established and popular a national habit."

The designation of promiscuous expectoration as a national habit of the American people, is an evidence of boorish animosity that happily is rarely shown by decent English gentlemen. We are of those who feel a true kinship with the great race across the Atlantic, and we believe that ties of blood and a common language ought to foster affection and respect deep enough to prevent such gratuitous insults. And so they do, except when some callow cad lets his choler and ill feeling crop out—not because he is English but because he is churlish. In all justice we can only say that such individuals lack entirely the gentlemanly traits that we have always found in the real Englishmen we have met and admired.

There is no little satisfaction therefore, in the knowledge that the writer of the offensive statements we have quoted does not in any sense represent the type of cultured English gentlemen that the world knows. As an exception, his remarks simply illustrate again that all nations have their boors and mental strabismics.

Too great optimism in regard to tuberculosis is neither warranted nor wise. Noteworthy as the progress in diagnosis and treatment has been, a study of actual

statistics shows that the disease still goes on collecting its deadly toll of mankind. In New York State in 1907, of the total deaths, 147,442, tuberculosis of the lungs was responsible for 14,406. This was 379 more than in 1906 and 802 more than the average for the previous 5 years! In November, 1908, there were 1,101 deaths from tuberculosis, 31 more than for the same month in 1907 and six more than the five years average! These statistics are not conclusive, for they do not supply details of collateral significance, but they do show beyond all doubt that tuberculosis is as great a problem today as ever. Statements that the disease has been conquered or that it will totally disappear in fifteen years are little short of criminal. Indeed, the optimistic attitude has been sadly overworked and an infinite amount of harm in the further struggle with the disease will surely be done unless the truth of the situation is straightway broadly disseminated. Already the people are losing their fear of tuberculosis because of the questionable teaching that it is a curable disease. Curable is not the proper word. The disease may be controlled or arrested, but few clinicians of experience would be willing to declare any patient cured beyond possible re-ignition of the disease under certain conditions. A continuation therefore, of unwarranted statements as to the absolute curability of tuberculosis will surely lead to a decrease of precautionary measures on the part of the people. Thus will be weakened the fundamental detail of any effective scheme of prophylaxis, a dire calamity, since it is universally conceded that in prevention rest our principal hopes of ultimately overcoming this fearful scourge. Every therapeutic measure, every detail of diet and open air liv-

ing, and every other possible aid in arresting tuberculosis in individuals afflicted should be utilized. The results that have thus far been obtained warrant reasonable confidence in our ability to save and return to useful lives a considerable proportion of those who formerly were inevitably doomed. But we should neither delude ourselves nor our patients with the belief that tuberculosis is any less serious or dangerous today than it ever has been. The "regiment" that New York State contributes every month of the year to the army of tuberculosis martyrs proves the fallacy of such a belief.

The extermination of tuberculosis lies in promoting the principles of physiological protection. The widespread dissemination of the tubercle bacillus and its congeners, makes the hope of doing any more than to limit the extent of these infective agents, chimerical in the extreme. But the growth of information concerning the relation of bodily resistance to infectious processes shows that here beyond all question is the one great opportunity. Better air and more of it, better and more rational methods of living, and an earlier recognition and correction of predisposing causes, will build up the only real defence against tuberculosis. Some day science may discover an effective means of securing an artificial bodily immunity. But until then, we must depend on the best measures at our command, which after all are the natural forces of the body. It takes no very great intelligence to see that tuberculosis would never have reached the proportions it has but for mankind's fatuous disregard of Nature's teachings. The price that the people have paid for dwelling in cities, for indoor living, for foolish com-

forts and for over-indulgence in general, is appalling. But it is not too much to pay if it only will serve to make the world think, and thinking, act. The emancipation of mankind from tuberculosis has not come yet, nor will it until the medical profession as well as the people more thoroughly realize the practical pertinence of the old and time worn saying that "an ounce of prevention is worth a pound of cure."

Philanthropy in its wisest application to the tuberculosis question will aim first, last and always at the correction of conditions which are known to lower bodily resistance. Badly arranged and overcrowded tenement houses offer the principal point for attack, for as Flick well says, "tuberculosis is a house disease." It might almost be said that it is a disease of a certain kind of houses. With this fact so true, particularly in a large city like New York one cannot help but glow with gratification at the announcement that Mrs. W. K. Vanderbilt has contributed two million dollars for the erection of model tenements for consumptives and their families. The daily press have given full details which it is not necessary to reproduce, but we wish to commend this splendid form of philanthropy. It is understood that Dr. Henry B. Shively whose excellent paper on *Leprosy in Norway* we print in this issue, has been largely responsible for the practical plan of these tenements for the tuberculous. Any man may well be proud of being instrumental in the evolution of a project that promises so much in tangible results. Mrs. Vanderbilt not only deserves the heartfelt gratitude of every person interested in the great subject of tuberculosis but she will receive the most hearty

commendation for the practical and far reaching character of her beneficent gift.

So many charitable bequests have been involved with their donors' personal ideas that they have fallen far short of their avowed purposes. But no such handicap has been placed on Mrs. Vanderbilt's gift, and she has had the good judgment to leave the details of the project to those who thoroughly understand the actual needs. The whole proposition bids fair to be a valuable lesson in practical philanthropy.

The Medical Record's 2000th issue finds this fine old medical journal in the front rank of the scientific publications of the world. Independent, yet eminently conservative, it furnishes to its contemporaries a splendid example of the dignity, accuracy and usefulness to which all medical publications should aspire. For a great many years the *Medical Record* has been an influential factor not only in state medical affairs, but in national as well. When Dr. Shrady withdrew from its editorship, there were not a few who felt that the *Record* had reached its zenith, and would shortly begin to decline. How mistaken this opinion was everybody knows, for the *Record* never stood higher in the estimation of scientific men than it does today.

Under Dr. Stedman, who ranks among the world's great medical editors, the *Medical Record* has gone steadily forward, carrying onward the best ideals of medical service and efficiency. No one can fail to admire such faithful work, which assuredly enriches medical science in more ways than one. There is probably no medical publication in the country today the loss of which would be more of a real calam-

ity. Fortunately the *Record* is not in any danger and it will go on for many a day fulfilling its worthy mission in the same efficient manner. While appreciating the literary and scientific value of this splendid journal, a word is due the publishers, Wm. Wood & Co., who have been responsible for no little part of the success of the publication. They have certainly kept the best of faith with the medical profession. May they long continue to enjoy the fruits of their business integrity and industry.

The mental injury of athletics has been put upon a statistical basis by Dr. Paul C. Phillips (*Science*, Ap. 3, 1908) who studied the records of a great many Amherst students. He finds evidence that the average mental ability of athletes is practically the same as that of non-athletes, and presumably there is the same proportion of great or little ability in each class. The prevalent idea that athletes are less intelligent than the anaemic book-worm is not true, indeed occasionally a "team" outstrips the "grinds." But when energy is unduly spent in muscular work, scholarship is immediately lowered, an equivalent of dropping in class standing, to a position which places above them one-fourth of those who would otherwise be below. Of course, scholarship is not a fair test of intelligence or of ability to succeed in the struggle for existence, but it is the best test we have so far been able to devise, even if a few "scholars" are life failures, and a few "wooden" men become great. The hygienic point to enlarge upon, is the fact that athletics should be so controlled as to enhance scholarship. It should be a means of so increasing health that a better education is obtained—not a worse one. It should be part of the curriculum as sport

is essential for all ages, young and old. It must be utilized for good and not so shamefully neglected as to degenerate into an instrument for harm. We commend Phillips' paper to all pedagogs for it shows a hygienic defect in present methods. As we have repeatedly shown, the ideal will be obtained when the athletes show a higher average scholarship than the non-athletes. It is as much a duty to check the "grinds" as the "team" men. The recent suicide of an honor graduate from too much application is more dreadful than the flunking of an athlete.

Would it pay? When the present directors of AMERICAN MEDICINE assumed the responsibilities of the publication and started out to continue the work of their predecessors, they asked no favors, and sought no assistance. They did anticipate the well wishes and kindly interest of every reputable physician. They did look for friendly notice and a brotherly recognition from their editorial colleagues. They did expect that every earnest medical man of the country would be sufficiently "fair and square" not to make any unkind criticisms until the purposes, abilities and efforts of the new staff had been given a fair chance.

It will ever be a source of deep pleasure to recall that most of these expectations have been realized. It is of no little significance that in the first year of the new regime, less than one hundred and eighty subscribers saw fit to sever their relations with the journal, while in the same period *over twenty-five hundred new physicians* who had never taken AMERICAN MEDICINE were sufficiently impressed with its merits to lead them to add their names to its subscription list. Many others who had formerly taken the journal came back to

encourage the new staff in its undertaking. It was a mighty fine year. But it was not all unalloyed happiness, and a few things have transpired that have been a revelation of the depths of unprincipled meanness to which some men will go.

The city in which the publication was born, strange to say, has been the locality from which all but one of the unkind attacks have come. A few men who have nurtured ill feelings against the preceding editor—a worthy capable gentleman to whom the profession owe much—without caring what injustice or prejudice they brought to the new staff, took the opportunity of the changing ownership to discharge their natural venom and spite.

One writer in the final spasm of a dying publication, whose demise was its most fitting act, bemoaned the sale of AMERICAN MEDICINE and berated the new directors because they saw fit to speak in friendly and appreciative terms of the American Medical Association! We could probably relieve the obscurity of this gentleman by showing the barrenness of his attainments and pointing to episodes in his career that would demonstrate the absolute unimportance of any opinions he might hold or express—*but would it pay?*

Another gentleman of the same fair city wrote us that certain of our advertisements were distasteful to him and that unless they were withdrawn at once he would "stop" the journal. He withdrew—and the journal did not stop even though he neglected to mention a bill for subscription that he had allowed to accumulate for six years!

We could throw some very bright light on this gentleman's consistency by publish-

ing, if we wanted to, some highly interesting and "business-like" correspondence with at least two proprietary manufacturers—but *would it pay?*

Another gentleman in a fair Western city—a man of real attainments and whom we thought to be an honorable member of the profession—with total disregard for the possible injury and hurt he might have inflicted, used the change of ownership of AMERICAN MEDICINE as a cue to slander all medical journalism in a most unwarranted and unjust way.

We could point out to the honorable gentleman who rushed into print with his wail, more than one event in his career that did not result entirely as he planned—*providentially*, perhaps—but *would it pay?*

And so it goes. Not once of the six or seven times that some self constituted master of ethics, or some embryonic purist in medicine has taken his fling at either the preceding or present management, have we failed to find that these unkind, unjust critics have been living in glass houses. A little investigation has never failed to show that the men who thus attacked were those who had the choicest assortment of skeletons in their own closets.

If we were inclined we could expose more than one dishonest act, and throw back some mud that would have more than ordinary adhesive properties! But there are innocent ones—wives and children—who would be soiled as much if not more than the guilty ones, and we have always asked ourselves, *would it pay?* And a still small voice has softened the anger and resentment, and told us beyond all doubt—*it would not pay.*

It never pays to let the baser passions conquer. No matter how wrongly and unjustly one is attacked or accused, a warfare

of words, insults and invective never rights the wrong nor corrects the injustice. The man who can maintain his dignity and composure in the face of slurs and insults needs no other defence. AMERICAN MEDICINE as it stands today is itself the best answer to the few who have stooped to unfair and ignoble criticism. The thousands of clean, kind-hearted and worthy American doctors who take and read the journal have seen in its pages not only a testimonial to the hard, unselfish work of Dr. Gould and his associates, but also the earnest, faithful efforts of those to whom Fate has entrusted its future. AMERICAN MEDICINE is an institution that will be alive and continuing the work its founders started, long after every critic has returned from whence he came.

President Taft as he enters upon the duties of his exalted office probably carries with him a greater volume of good wishes, than has been enjoyed by any man before him. It is not difficult to grasp the reason, either, for while his worth as a man and as a statesman is evident, he radiates a glow of optimism that is infectious. More than this, here is a man who is the embodiment of constructive force and we believe the country under President Taft will undergo an era of constructive legislation and achievement that it has never known before.

We believe we can safely say that the medical profession are with Mr. Taft heart and soul. We hope it will be many a day before he needs any of us professionally, but it ought to be reassuring to him to feel that he has 150,000 doctors to choose from, any of whom will gladly run down to Washington whenever he wants them.

The National Department of Health makes slow headway, but now that a new administration has been safely inaugurated it is not too much to hope for early action of some kind. A cabinet officer is by no means necessary for the culmination of the various plans suggested. In fact we doubt if it would be advisable at all, at least at the beginning. Nor are we in favor of superseding or dispensing with the Marine Hospital Service.

The one great necessity is organization of all the different bureaus and agencies under one head,—a qualified medical man. Then with proper elaboration of its powers and duties, such a department will become one of the greatest forces for good in the whole scheme of republican government. Few, aside from those who are in touch with medical affairs, realize the enormous progress that has been made in sanitary medicine and the prevention of disease. It would actually seem that a large part of the medical practice of the future will be preventive medicine. Already the incomes of medical men are dwindling, for in spite of the fact that physicians are rendering greater service than ever before it is an unpaid service. In all justice to a profession of which so much is demanded, if the people individually are only willing to pay when they are sick, somebody ought to pay for keeping them well, and that somebody should be the state—for it is benefited most of all.

The state is strictly utilitarian and under a National Department of Health plan, only the doctors actually needed would be used. Thus any overcrowding of the medical profession would solve itself. It may take time, but it seems to be a reasonably certain promise, that the general practitioner of not many years ahead will be an employee of the government.

In the death of Dr. Bull the medical profession have lost one of its most brilliant members. Few men ever claimed a larger share of the esteem and love of their associates. As a surgeon, his skill and ability were universally recognized; as a citizen he was ever ready to fulfill his civic duties; and as a man, to countless people he was a devoted counsellor and friend. With the courage and hope that were ever his characteristics all through life, he fought almost to the last minute the dis-



ease that ended his life. There was no surrender in the make-up of this strong man. But in his relations with those who knew him his delightful personality was ever uppermost and many a person will treasure the memory of some one of his manifold acts of kindness.

Alas, that such noble, useful men are so often taken away in the very prime of life. But while we mourn their loss, we can thank God that they have lived at all, for they always enrich the world and leave it better than they found it.

ORIGINAL ARTICLES.

AN APPEAL FOR THE SAKE OF MAN AND OF MEDICINE.

BY

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I beg, first, that you who read, will, with unprejudiced and open mind, read to the end what is here written. It is my earnest conviction that there is not a man, woman, or child who is not personally and profoundly concerned in the matter, either directly as regards himself, or secondarily in the persons of relatives, friends, etc. The duty at least to listen is far more incumbent upon you if you have power or influence with others as an educator, physician, legislator, administrator, employer of men, or capitalist. If you have any feelings of religion, morality, or sympathy for your fellows, it behooves you to investigate and see. I am not writing at the behest of vanity, or self-interest. Every consideration born of selfishness would counsel silence. *"Ich kann nicht anders."*

I beg also that abstractors, epitomizers and editors will not misrepresent me, and that you who read will try to bring to the attention of others this paper itself rather than another's report of it. Conclude and judge, I beseech, for yourself, without bias or influence of others, and especially if these others whom you are inclined to trust are professors, text-book makers, Doctors of Laws, "Authorities," "Leaders," or officials of Medical Societies, etc. These, in no time or place, have ever welcomed new truth, have indeed scorned and opposed and derided both the truth and the truth-bringer.¹ They are most expert in impli-

cations or charges that the crusader is an exaggerator, an egotist, a self-advertiser, or much of a fool. The entire history of discovery, science, and civilization, is a pitiful repetition of this wilful and criminal blundering of so-called "leaders." The charge narrows itself to their culpable interest only in the effects of disease, in the terminal diseases, born of unscientific and wilful ignoring of the functional origins of most all diseases, and of recklessness as to the prevention of vast sources of both functional and organic diseases. An appeal to these false leaders and authorities is absurdly useless. All progress is made against their will by the few, usually by those outside the class. A great and true scientist, Tyndall, speaking of so-called scientists, says:

"We often complain of the scorn of theories by practical men, and to convince them we triumphantly point to the immense services of our heroes. The practical men, however, will not be convinced; and why? Simply because of ten well-known theories nine deserve nothing better than contempt. Our intellectual heroes build their theories upon enduring facts; the mass of facts which they use in order to guess the law is a measure of individual ability, not the touchstone of the correctness of their system."

Huxley said that "The improver of natural knowledge absolutely refuses to acknowledge authority as such. Every great advance in natural knowledge has involved the absolute rejection of authority." In publishing his discoveries concerning thoracic percussion, Auenbrugger wrote: "I realize that envy and blame and even hatred and calumny have never failed to come to men who have illuminated art or science by their discoveries or have added

¹ See "The Reception of Medical Discoveries," *Annals of Ophthalmology*, October, 1904 (before it fell into "organization" hands), or *Biographic Clinics*, vol. 3.

to their perfection." Indeed, one may be cunning enough to know the truth, but too cowardly to acknowledge it in detail. "It is a horrible thought, but very true," writes a great leader and authority, "that we reach a stage of life, some earlier, some later, in which a new truth, a perfectly obvious truth, cannot be accepted." That sentence should be printed in every number of every medical and scientific journal.

Details! *First.* There are probably over five million Americans who during infancy chose the left hand as that to use for the most expert and intellectual tasks. The majority of these were compelled by blind prejudice and custom to become right-handed writers. The result in such a case is often tragedy of the life, and always at least morbidity, abnormalism, and handicap. Visual function, righteyedness, is the cause of righthandedness, and lefteyedness is the cause of lefthandedness. The cerebral location of the speech-center, always combined with the writing center, upon one side or upon the opposite, of the brain, is likewise a result of ocular function. Every act of life, especially every intellectual act, safety in action, choosing, willing, is loosely or closely bound up with conjoined innervation of the muscles of the coordinate side of the body. Surgeons should daily remember this fact, but they universally ignore it. Refractionists have need to bear it in mind more carefully, but they are proud to think themselves surgeons. Mothers and school teachers go to the extreme and brutally train the child to disuse the left hand for writing and to transplant the intellectual centers for speech, writing, etc., from their natural location with the lefthanded in the right side of the brain, over to the left side. The results are mal-function, accidents, dangers, and suffering

of many kinds,—all not only wholly avoidable, but needlessly created.

Secondly. At so early an age as 14, it has been found that at least 27 percent of European school children have lateral curvature of the spine. In our country the proportion cannot be less, so that, as I have for several years been crying out, some twenty millions of our people have this disease. I have been in error in this matter, however, and have now come upon facts which make it certain that not a minority, but the great majority of our young educated people from 16 to 20 years of age have the disease. And if they once have it they always have it. I have learned that in one large university it was years ago found that a majority of the members of the freshman class had noteworthy lateral spinal curvature. The fact was so horrible that no report was ever published, and the duty of arousing the nation and the world to the extent of the hideous and awful evil was ignored and refused.¹—Why?

If it is said that the proportion of cases of spinal curvature in *all* of our children, young men and young women, is less than that in high-school, college, and university classes, one can only add the fervent prayer that it may be so. The doubt of it still clings. A disease that afflicts some 80 out of 100 of our educated classes, is a bitter commentary on education, and upon the official guardians of the public health.

And such a disease! A variation from an upright support, a curve, or kink, at the base of the single column which supports the human body! What architect would

¹ This reminds that Vol. I of the Royal Report concerning the sudden drop in the birth-rate in Australia, etc., is the only one allowed to be published. The second volume giving the actual facts, figures, and mechanisms of this race-suicide were so hideous that the Government did not dare publish them.

be reckless of such a fact in the steel beams of his bridges or sky-scrapers? And only one or two orthopedic surgeons in the United States and Canada accept even partially the truth. The rest of the several hundred thousand physicians and surgeons do not know the cause of the disease, cannot cure it, and make light of it when they are prodded. They do not look for it, could not even see it, unless it were pointed out to them, that is when it exists in its functional stages, those only in which it is curable. Thus they go on treating its symptoms and effects with drugs, operations, morphin, institutional life, "rest-cures," etc. How often I have witnessed the grief, the shame, the tragedy of noble physicians, when I, an oculist, have revealed to them the fact unsuspected before, that their own children were hopelessly deformed and crippled by a lateral curvature become organic under their very eyes.

The leaders say the numbers are grossly exaggerated: I say there are 50 millions of American citizens, probably more, who have lateral spinal curvature. They say the cause is unknown; I say the cause is known; or knowable if one wishes to know it. They say it will get well itself and untreated; it never does. They say slight curves are not harmful; but the slight are often the worst. They say it produces no symptoms; I say it is producing a hundred symptoms; is an enormously powerful agent in weakening and abnormalizing; in producing incalculable suffering; in fallowing the ground for the infectious and terminal diseases; it is crowding thousands into asylums,—it is, in brief, wrecking millions of lives. They say it cannot be prevented; I say it can be prevented, absolutely, in 99 cases out of 100. The dress-makers and tailors know infinitely more about the fact

of the existence of spinal curvature than the professors and makers of medical textbooks,—and they are fully as expert in concealing the deformity! A great man has written a great book upon clothes and scarcely made allusion to the most significant fact concerning them, their function, namely, of concealing physical deformity. Even shoemakers and cobblers by genuinely scientific observation of worn-out shoes have often guessed the truth. And osteopathy is one of the ironies of medical sociology,—the foolish teaching the wise a wisdom of which neither knows aught. The truth which the pitiful osteopath is blindly seeking, is that of lateral spinal curvature. But the pity is drowned in ridicule that he should suppose the vertebrae are "dislocated." But the ridicule is overwhelmed by the fact that his fumbling and punching about the backbone is really an ignoramus's *deep massage*, practically unknown of medicine, and does no permanent good whatever.

It is of course useless to warn the deaf that they should hear the danger signals called osteopathy, etc. The profession has created the osteopath,—and, while ashamed of its handiwork, it denies all responsibility for him. It therefore proceeds to curse him, its Frankenstein, while he leers at his ashamed creator. The obvious foolishness of the osteopath's theories are properly scorned, but the number of his proselytes as obviously grows. His sad excursus into error does not lessen the sadness of the professional nonexcursus into the truth which the osteopath is blindly seeking. There is indeed a new development of osteopathy already in full swing which says, "malalignment," instead of "dislocation" of the vertebrae. With gross ineptitude it naturally locates the seat of the reflex

troubles of scoliosis in the cervical instead of the lumbar region. Egged on by the ophthalmic surgeon's old blunder, it traces tilted head to heterophoria, whereas heterophoria is a device of nature to lessen, not create, both eyestrain and backstrain. Osteopathy is making great haste to travesty most of the ignored truth of lateral curvature of the spine, seemingly to justify the professional sneerers who first ignored the whole of it. So that, between travesty and ignoring, poor Truth still awaits proper appreciation and acceptance. All the time the sick multiply, and—die. "Where the mind of genius," said Tyndall, "discerns the distant truth, which it pursues, the mind not so gifted often discovers nothing but the extravagance which it avoids." But osteopathy is better far than the -pathy of one famous and very "regular" orthopedic surgeon who cuts off shoulder blades because of astigmatism! Even "ophthalmic surgeons" say they are able to cure pains of the shoulders by glasses!

And the same, *mutatis mutandis*, may be said of eddyism, faith-cure, rest-cure, and a hundred delusions, medical and pseudo-medical.

An hour's interest and study of passers-by in the street would show a keen observer that a large percentage of ordinary folk are humpbacked, head-tilting, lopsided, pigeon-toed, unequal-stepping, deformed, etc.,—defects caused by spinal curvature. Artists have not discovered scoliosis because they have intuitively refused the scoliotic model, choosing straight-backed foreigners who never went to school. Not two school teachers dream that they are permitting and witnessing, even creating the score of millions of scoliotics of the adolescent generation, crushed as 90 percent of these pupils are to the left, with wry necks,

humping backs, twisted heads, etc. Perhaps they read of the devilish Viennese and Chinese factories of ghastly cripples to make of them more successful beggars,—with horror—and also with pride that civilization and education have ended all that!

The Cause? Visual Function! In a minority of cases it is due to certain axes of astigmatism which compel a *constant* tilting of the head to one side in order to see plainly. Any constant abnormal head-posture, such as head-tilting, head-twisting, etc., will produce first functional, and later, organic lateral spinal curvature. "Scientific" orthopedics has established the truth that any habitual lateral bending of the spinal column produces rotation of the vertebrae and hence "malignment" of the vertebral column. But to experiment with cadavers, it cut off the cervical portion of the spinal column and also ignored the neck and head of the living model. The cervical vertebrae form part of the column; ignored by the scientists the osteopath is founding a philosophy upon the ignored part! In a majority of cases lateral spinal curvature is caused by the habitually morbid writing posture—produced by righthandedness and righteyedness (in the righthanded, by lefthandedness in the lefthanded), whereby the head and body are wrenched to one side and in several ways distorted. The all-important seeing what is being written is impossible without this back-wrenching, life-wrecking deformatory process—impossible if the child follows the advice of school teachers and writing masters. In madly and exclusively seeking after the infinitesimally little the pathologists have utterly missed the grossest and most common of all gross lesions of the body, the kinked, curved, vertebral column.

The Prevention? Give to the little patient with astigmatically-caused head-tilting, spectacles correcting his ametropia, and his head will be erect and his back will not become curved. Place the writing paper twelve or fourteen inches from the eye, opposite the right arm and shoulder of the squarely-placed and erect-bodied pupil, and on a desk slanted at an angle of 30 or more degrees, and there will be no need and no practice of functionally-curved and writhing backs and heads in order to see the pen-point and what it is doing.

The Cure of Lateral Spinal Curvature. The disease is still functional or largely so up to about the age of 20 years. The diagnosis of the functionality of the disease is demonstrated by making the patient stoop forward with unbended knees, as if to pick up something on the floor, if the morbid lateral curves disappear and the line of the vertebral spines (dotted with ink) becomes straight. When lateral kinking or curving does not entirely disappear, then function has by that much become organic, and the probability of complete cure is to that degree lessened. When there is no straightening of the line by this bending forward the disease is entirely organic, and the ingenuity of man plus all the torture-chambers and outrageous machines pictured by a Hoffa will never bring about cure. The only attempts to cure in any stage, by "scientific orthopedics," is by means of machinery, crushing, compressions, mechanical devices, jackets, bandages, and the like, —which never cured and never can cure any patient. All fashionable and textbook orthopedics concerns itself with the distortions of the dorsal region, which are secondary, compensatory, relatively unimportant and comparatively incurable. The significant facts about lateral curvature are

its location in the lumbar region, its functionality, and its curability or incurability. The sole successful methods of cure are, and self-evidently must be, by means of neutralizing and normalizing physical exercises, gymnastics, postures, and trainings, individually adapted and varied with each patient and to the peculiarity of the case, and to every stage of the disease. For years I have despaired of securing such treatment by all but one orthopedist, and although not my business, out of mere pity I have had to invent and search out means and methods to give some relief to the hundreds of patients accident threw in my way. This is the written set of rules given my last patient with a left one-half inch midlumbar kink:—

1. *In Standing:*

Habitually support the body-weight on the left foot.

2. *In Sitting:*

- a. Throw the left leg over the right.
- b. A one-inch or two-inch pad under the left ischium.
- c. Exercises in leaning to three positions to the left.

3. *In Lying and Sleeping:*

1. Preferably on the right side and shoulder.
2. On the right breast.
3. On the right shoulder blade.

4. *Gymnastics:*

Always with deep and held inspirations, never violently or rapidly.

1. Bending the body with rigidity of the pelvis, forward and to the left diagonally; directly to the left; diagonally backward and to the left.
1. Again with stationary pelvis, bending the body backward and then rotating or sweeping it, while

bent, around to the left to a bent-forward position; and *vice-versa*.

All of these, and variants of these, and other methods not mentioned, chosen after experiments and tests upon the patients, neutralize and cure the functional curve, and may improve the partially organic one.

Thousands of specialists with ingenuity, enthusiasm, and love, could find remunerative callings in treating by such and similar methods, ever-varied and adapted to the special case, millions of patients now untreated. There is not one such specialist in the world.

The single good thing that one may say as to crooked backs is that the lateral curves, with the resultant kyphoses, lordoses, and a dozen other sequent deformities of shoulders, chest, etc., become at the age of 40 or 50 entirely organic and fixed, and symptoms disappear. The old humpbacked cripple is at last released and half happy. But before this happiness of life comes, he usually finds the rest and peace of death through the terminal diseases, which scoliosis had long prepared for, invited, and welcomed. Before the end-disease arrives, death's seal is stamped in the face of every chronic sufferer. In the dictionaries you will find listed the types of the facial imprints of many diseases, the cardiac facies, the Hippocratic, the hepatic, the ovarian, the typhoid, etc. But, of course, the most differentiated, most distinct, most common of all you will not find listed—the scoliotic face: it is the unity and result and attestation of long years of resistance to mysterious affliction, of combat with an unknown and ever-present enemy; it is a composite photograph of pessimism, irony, endurance, pain, and grief,—the face of a winded antagonist enjoying a brief

truce with his conqueror before the final Dance of Death begins.

Eyestrain. Some 95 percent of people are righthanded or retain their good left-handedness and thus escape the gruesome ignorance and cruelty of the ambidexterity barbarians. Perhaps 20 or 30 percent escape the ignoring, unobservant, unscientific scientists, teachers, physical culturists, and come to young manhood and womanhood with nearly or wholly erect and elastic spinal columns. But none, not one escapes the maleficent influence of eyestrain. If not properly "glassed," soon or late, little or much, subtle or glaringly tragical, the hurt of ametropia and accommodational inefficiency is doomed to come to every one sharing the thing we call civilization. There is not probably an emmetropic pair of eyes in the world. And if there were one such pair, the "accommodation" of the eye is unprepared for and incapable of the tasks of early and middle life. Even in the young this is true, more or less, but at 40, 50, and 60 it is unexceptionally and absolutely true. Despite all the dogmatic contentions of the backward-leading leaders, the chief inflammatory and surgical diseases of the eye (after babyhood) such as cataract, heterophoria, amblyopia, iritis, etc., are also the consequence of ametropia, or eyestrain. Ten thousand trained, keen-minded, nimble-fingered refractionists are needed by the American people. The national life and validity, the birth-rate, death-rate, the life-value, hangs largely on this factor of ocular efficiency. A dozen or more oculists know it, practice it, preach it, but thousands deny it and ignore it. Every day a million or several million of patients whose diseases were caused or are caused by eyestrain are being treated with drugs, placebos, morphin, cocaine, "rest cures," etc.; in a thou-

sand sanitariums where *Sanitas* is unknown; with surgical operations; or they are herded, hopeless, in "Asylums," "Homes," and "Hospitals."

Vision, accurate and physiologic vision, is the *sine qua non*, the precedent and continuing condition, of animal and human motion, of vertebrate evolution, of the progress of civilization. This accurate vision is dependent upon the perfection of the shape of the optical instruments called the eyeballs. Such perfect optical instruments do not exist in man, and in direct proportion to their imperfections, crippling perfect function, there is sequent disease and lessened efficiency of the person and of his life. In an amazingly large number this inefficiency is present, and in all it occurs in life sometime and more or less.

Ametropia is the technical name for such imperfection of the eyeballs, and eyestrain is the name given to the resultant morbid functions. In addition to this the eyes, before civilization, were evolved for a definite and necessary function—distant vision. In a few generations or centuries civilization has suddenly come demanding near-vision at one or two feet, and for this continuous "near-work" upon tiny things, printing, sewing, etc., there is no mechanism. The accommodation is unequal to the demand, and at 45 it begins to fail altogether. The result is the need of the most useful invention of civilization, optical lenses; but, despite all ophthalmologists and opticians, the invention is most ludicrously applied, the diagnosis of ametropia most outrageously misdone. Of the few patients that are treated by the ophthalmic surgeons and opticians, but few of the glasses ordered relieve the eyestrain, or stop the hundred diseases caused by it. If a patient should go to a hundred "leading" city

ophthalmologists and opticians, detail the same symptoms, etc., each of the prescriptions would be unlike the others and but one or two probably, (possibly not any) would be capable of curing the eyestrain. And misfitting spectacles on the part of the optician and disobeyed orders on the part of the patient would likely turn these into failures. Moreover, the city authorities do not see a hundredth of the city patients, and half or three-fourths of the American people cannot possibly consult any but the ignoramuses, the peripatetic or resident charlatans with or without degrees, who are no more fitted for their calling than they are for watchmaking or captaining an ocean liner. There are hundreds of 100-square-mile patches in our country where it is utterly impossible for a sufferer to secure correction of his eyestrain. Ten thousand capable refractionists are needed and would immediately find places to do good and remunerative work, work that is of a beneficence that might fitly be called divine. And all the time medical colleges are multiplying, their courses are inordinately lengthened, theoretic and impracticable knowledge is demanded, and the whole profession is woefully clamoring that the profession is overcrowded!

How it works out in the politics of democracy is admirably illustrated by the blunder of well-intentioned Governor Hughes in sanctioning the "Optometrists." The professional "leaders" particularly of New York City, had already apotheosized the machine called the ophthalmometer, and finished the neologic quackery by preaching that no mydriatic is necessary for diagnosing errors of refraction. This was followed by the denial that eyestrain has any resultant systemic evils, that functional diseases have any causes or effects, or that

they are curable anyway. Taking them at their word what could Governor Hughes do but carry out their condemnable pathology and legitimize optometry? Thus, in place of the physician, is put the ignorant optician as the therapist in charge of the vast body of human diseases and ills. The result is every department store and spectacle-peddler advertising, "no poison-drops," and, practically, their assumption of the licensed role of healers in ophthalmology. The farce is ended (or just begun?) with the legitimizing of the osteopath, while the writing-master and school master and parents are recommended to continue the making of the millions of migrainic, scoliotic, and "ambidextral" life-wrecks.

The Symptoms? The vast majority of all functional diseases are now of confessedly mysterious origin! Take all the functional disorders and afflictions of unknown nature, of unknown origin, for which the world of medical men are grasping avidly and aimlessly at unknown (and unknowable) remedies, and the great majority will be found, directly or secondarily, due to the three morbid agencies mentioned. Add to these the abuses called "The Seven Deadly Sins of Civilization," and the list is nearly complete. Add to these the influence of those functional sources of evil which prepare the soil for the infectious, organic, surgical, and lethal or terminal diseases, and the list is almost filled. All statistical tables and reports of the "Causes of Death" concern themselves with the diseases immediately preceding death. All the fashionable and "successful" consultants are called in when the disease has done its worst and death is inevitable. But he who loves his fellow men, he who wishes to prevent the evil of premature and unnecessary

death, he who hunts prevention of disease as earnestly as the medical politician hunts fame, offices, honors, and success,—he will seek to know the functional and habit precedents and origins of the terminal or death-dealing diseases. This search for the beginnings of death must not be postponed to the postmortem table. The beginnings were way back in the years of morbid function. American quackery, eddyism, osteopathy, faithcure, optometry, and a hundred such nonsensicalities, if ludicrous, are still evidences that a large part of the community is at least undeceived. Its renunciation of one folly for others is a stinging proof that the first one should not have been permitted. Unfortunately the warning is only laughed at, not heeded by the professional leaders. Alas that the profession is still led!

The Emmanuel Movement, Thaumaturgic Healing, is an attempt to make eddyism and suggestion-therapeutics respectable,—respectable socially, intellectually, and medically. But, however ludicrous, the attempt tells exactly the same sorry story I have emphasized. The "Movement," frightened into birth, asks and receives the sanction of the Priest of Medicine, while the atheist cynic emphasizes the fault of the physician in not having long since preempted the whole field of suggestive therapeutics. Just as the host of sanitariums, of private and public hospitals, "homes" (individual, semi-private, or public), and numberless eleemosynary institutions, are filled with unrecognized eyestrain and back-strain patients, so the eddyistic, faithcuristic, and Emmanuelistic clinics are fed from the same sources. Emmanuelism relies upon medical propping and aid, and like its copartner as little dreams that no permanent cure is possible by emotional

and suggestive sleight-of-hand tricks. It costs life-force and health to hold a kinked spine in service, and astigmatism cannot be permanently cured by the prestidigitator's mental make-believe. Neither the man of piety nor the man of pills will look at canted and strained bodies, or look through accurately-seeing eyes. How then can they cure the numberless patients when they ignore the etiology of functional diseases, and treat their effects by the legerdemain of suggestion? And so another is added to the silly experiments we as a people are fond of making in our juggling with medical truth.

The vast majority of all functional nervous and physical diseases are directly or secondarily due to backstrain and eyestrain, either singly, or, more usually, combined. The combination is certainly causally present in the epilepsy of a hundred varieties and degrees, in the foolishly-named neurasthenias, hysterias, "nervous breakdowns," the invalided, the failed, etc. The haunting curse and shame of the age is epilepsy. Backstrain and eyestrain are its causes. Thousands are affected with swooning or fainting attacks, all from the same causes. Ménière's disease is little or nothing more than sick headache, caused by eyestrain, and prevented by correction of ametropia! The large majority of pelvic diseases, both of men and women, are due to spinal curvature,—the floating kidneys, gastroptoses, appendicitis, ovarian and uterine diseases, etc., because the malpositions of the body strain or weaken the ligaments of the viscera, crowding certain organs and making morbid their functions by pressures, relaxations, etc. When the neurologists and medical philosophers do not know the cause, or the nature, or the cure of a morbid condition, they are prone to

call it "neurasthenia," "diathesis," etc. Neurasthenia is the popular disease nowadays. It has been made fashionable because neither its cause nor its cure is known. The most of it is due to spinal curvature. One great general physician is on record as saying that the relief of eyestrain cures a host of the disorders of indigestion,—a truth I have been preaching for nearly a score of years. The greater part of the lay world knows that the headaches of all kinds, sick headaches, migraine, hemicrania, megrim, "rush of blood to the head," etc., are almost always due to eyestrain. A thousand "ophthalmologists" pretend not to know it. They secure the reference cases from the great consultants. It would, a hundred times over, pay every college or university to secure an expert refractionist and a straightener of spinal columns, in order that students might vastly increase their working power, and prevent waste of health and life, even wreckage of both. The medical supervision of the public schools, if properly done, would consist, nine-tenths of it, in attention to the curved backs and ametropic eyes of the pupils. Personal investigation has shown that fully 60 percent of the school children of Philadelphia and other cities have eyestrain or defective vision. Where is one-tenth of attention given to it? Millions of dollars can be easily secured for institutionalizing the failed and invalided life-wrecks, but not a dollar to prevent them by means of slanted desks—leaves opposite the right shoulder, and by spectacles, the lack of which Governor Guild of Massachusetts officially asserts causes most of the ill-health of school children. Suicide of children and adults in every nation and community is exactly in proportion to the number of study-hours demanded in the schools. The death-rate

may easily be halved, the sick-rate quartered, the suffering of the world reduced to one-tenth, by a realization that these reforms are feasible; it is possible to bring about a speedy ending of the hideous evils that are following from inattention to the facts.

What hinders? Ignorance, dogmatism, falsely called conservatism.

What is needed? Money wisely devoted to the chief ends in view: *First*, to the wide dissemination of the knowledge that these matters are truthfully as I have stated; *secondly*, to the training of men with minds and souls capable of righting the evils.

In addition I ask for an intelligent, large-minded interest on the part of all men.

Nothing, however, is to be hoped from the great or little medical colleges, undergraduate or postgraduate. They are in the hands of the prejudiced, the professors, the organic pathologists, the "leaders" who never lead. They must work out blindly their personal ambitions, by treading carefully in the ruts of custom and habit, and indoctrinating their pupils so they may walk in the same safe and narrow way of precedent. They are the true teachers of "Heredity," "Diathesis," "Neurasthenia"—those "Unknown Gods" whom they naturally worship,—whom the new medicine and the new science of Morbid Function "shall declare unto you."

There are a dozen or two oculists who know these things to be true or in great part, true. There are a few hundred silent general physicians who are as well aware of the facts. There are thousands who are more or less convinced but who dare not openly preach and practice the unpopular truth. The great mass of sincere-minded, unknown, noble country physicians, with a

few of the more honest of the general practitioners of the city are ready to practice it. These have seen thousands of their patients cured of many terrible diseases which the official "science" and its text-books, declare to be of unknown origin, of unknown nature, and of unknown curing.

The truth must be made widely known by means of proper literature scattered among the people. Since official orthopedics will have nothing to do with the cause, diagnosis, prevention, or cure, let the 50 or 60 millions of Americans afflicted with lateral spinal curvature and its secondarily caused distortions, diseases, and sufferings read and learn for themselves. Let them found schools to teach and fit men to deal with the intolerable mischief! Nine-tenths of all spectacles worn by our people, more accurately ninety-nine one-hundredths, are incapable of curing eyestrain, and millions go without the spectacles needed to prevent the enormous resultant suffering. Special refraction schools, not in the hands of the old recreants and immobiles, are necessary to end one of the worst shames and tragedies of civilization.

Who will supply the zeal, who the money?

I and many physicians, thousands of patients cured, and a world of patients still uncured appeal to you personally for an answer.

A method of disguising the taste of castor oil in a certain hospital is as follows: A powder composed of gum arabic, liquorice and sugar of milk, flavored with vanilla, is made. A small amount of the powder shaken with a little water produces a persistent froth, which forms an effective disguise.—*Trained Nurse and Hospital Review.*

LEPROSY IN NORWAY.¹

BY

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Leprosy in the Scandinavian peninsula is coeval with a very early period of the country's history. It was certainly known to exist in the time of the Vikings and was probably introduced by these hardy adventurers on their return from voyages to countries bordering on the Mediterranean, possibly from Egypt or Syria. In the Viking ship unearthed at Gokstad in the year 1881 there were found articles of gold thread embroidery, other textile fabrics of delicate manufacture, and peacock's feathers which would indicate that the stalwart navigators who manned the vessel had extended their piratical expeditions to southern and eastern countries remote from their northern home.

It is also significant as indicating this probable origin of leprosy in Norway that within historical times and even down to the present day leprosy has been most prevalent in the viks or bights and inlets of the western fjords from Stavanger to Tromsø, whence the early Norse freebooters departed on their predatory incursions to distant lands. It is not improbable that with their rich plunder of older and more refined civilizations, they may have returned with the bacilli of leprosy and the infection of other communicable diseases such as the plague, which even at this early day ravaged the countries of southern and eastern Europe.

Possibly the first allusion to leprosy in Scandinavian literature, under the name of *hörundfall* (wasting of the flesh), is found in two ancient books of law, the *Gulathingslov* and the *Borgartings-Christenret*. The word occurs in a canonical ordinance sanctioning the annulment of a betrothal if either party to the contract be leprosy. In another passage leprosy is named as the sole physical reason for not rendering military service to the State. These ancient statutes of Norway date back to the eleventh century. The usual word for leprosy in the old Norwegian of a later period was *likprá*, apparently a Scandinavian variant of the Latin *lepra*, which first appears in the *Speculum regale*, composed by a Norwegian ecclesiastic about the year 1250. A curious remedy is given by the priestly author, which was held in high esteem, the semen of the whale, *spermaceti*, which enjoyed a great repute not only for leprosy, but also as the safest remedy for the eyes, for fever, for headache, and for numerous other diseases. It would appear from the context, however, that this singular drug, which was called *hvalsauki*, more closely corresponded to *amberggris* than the preparation known as *spermaceti* today.

The most famous of the sagas contain no allusion to leprosy, but in the so-called bishop sagas,—*biscupa sogur*,—*likprá* is frequently mentioned. The disease was often confused with scurvy and scrofula, but there can be little doubt from the vivid descriptions contained in these ancient works that leprosy was a common and well known disease in this early period of Norwegian and Icelandic history.

Bishop Hakon of Bergen in the year 1325 proclaimed that the holy laws of the Church, in order to avoid contagion, would

¹ Read before the Section in Medicine of the New York Academy of Medicine, January 19th, 1909.

not permit a person suffering from malaotto-sot or likprá to dwell in the same house with healthy people. A leprous priest, one Bjarne of Kvala, was forbidden to exercise his ecclesiastical functions.

The first mention of hospital care for lepers is contained in the will of King Haakon V, which was executed in 1257. In this instrument it was decreed that the St. Catherine Hospital in Bergen should admit only lepers. This hospital which was con-

Storthing or National Assembly of Norway in the alarming increase in the number of cases, another institution, the Lungegaards Spital, was opened at Bergen in 1849, and another, the Reknaes, at Molde, and one at Trondhjem, the Reitgjárdels Hospital, in 1861. St. Jörgens Hospital in its present form was founded in 1544 or 1545. In 1561, King Christian III of Denmark, who was also sovereign of Norway, gave the institution a liberal endowment from the



ENTRANCE TO PLEIESTIFTELSEN.

tinued as the St. Jörgens Hospital is the oldest of existing institutions for the care of lepers in Norway, and indeed in the whole of Europe, and was the scene of the early clinical labors of Danielssen and Boeck, who in 1840 began their pioneer studies in the first truly scientific investigation of the disease. They made a census of the leper population in 1845 which showed a total of 1,122 cases. As a result of their studies and their success in interesting the

sequestered estates of the St. Synneves Monastery. St. Synneva was a Scotch saint who was wrecked on the coast of Norway in 973, and at Selje, an island above the entrance of the Nord Fjord, there stands today the remains of a cloister erected to her memory in 996 by King Olaf Tryggvesson. The present building of St. Jörgens dates from 1702, the hospital having been totally destroyed by fire in that year. The building is constructed of wood, is two

stories in height, and contains forty little rooms resembling monastic cells, each affording a rather cramped accommodation for two lepers, and opening into a large common living room around which extends a gallery at a considerable elevation above the floor. There is attached a chapel of quaint, timbered architecture which contains as an altar piece a curious, mediaeval painting, by an unknown artist, of Christ healing the leper.

St. Jörgens possesses great interest for the medical antiquarian as in its present form it is said to faithfully reproduce the original buildings destroyed in the fire of 1702. It is the only one remaining of the lazarus houses which were numerous throughout Europe in the middle ages, and is in every respect a remarkable survival which recalls the type of ancient hospital depicted in paintings of the Flemish and Dutch schools of the fifteenth and sixteenth centuries. In 1893 the funds of this venerable institution amounted to 1,437,744 kroner, and today its wealth is estimated to be at least one and one-half million kroner, \$400,000. Owing to the decline of leprosy in Norway in recent years, due in a measure to the enlightened policy of segregation initiated by Danielssen and continued by G. Armour Hansen, the present inspector general of leprosy in Norway, there are now but 32 lepers in St. Jörgens Hospital. No new cases are to be received at this institution, which upon the death of its present occupants will be discontinued as a leper hospital. Already a portion of the endowment fund is being expended in the campaign against tuberculosis, and it is expected that in the near future all the wealth of this ancient institution may be made available for this purpose.

Pleiestiftelsen which was founded in 1857, is the largest of the hospitals in Nor-

way for the care of lepers, accommodating 270, but at present containing only 92 cases. The Lungegaards, formerly a leper hospital in Bergen, was established in 1849 and is at present used for advanced cases of tuberculosis and other chronic diseases. In 1860, these three hospitals of Bergen with the sister institutions at Trondhjem and Molde housed between 700 and 800 cases, the total number having increased from the time of Danielssen's first census in 1845 of 1,122 to 2,883. So alarming had been the spread of the disease and under the influence of Danielssen so strong the belief in its heredity, that in 1854 a proposal to prohibit by law the marriage of lepers and their direct descendants, was defeated in the Storthing by only a narrow majority. The ligation of the vasa deferentia of all male infants, the sons of leprous parents was even discussed but never perhaps seriously considered as a practical measure. The leper population had diminished to 573 in 1900. In 1894 the Lungegaard at Bergen and the Reknaes at Molde were discontinued as leper institutions, so marked had been the influence of segregation, the improvement in housing and living conditions of the peasantry, and emigration of lepers from the country in reducing the number of cases. There are now not more than between four and five hundred cases in the whole of Norway.

Pleiestiftelsen which is one of the most important centers for the scientific study of leprosy today is a well equipped institution with a library of 11,000 volumes and an excellent pathological laboratory under the able direction of the physician in charge, Dr. H. P. Lie. It has been the seat of much important research work embodied in the reports of the institution and in monographs by Dr. Lie on leprosy of the spinal

cord and peripheral nerves, and in collaboration with Borthen of Trondhjem on the ocular manifestations of leprosy. Every morning at 8.30 visiting physicians, many of whom are from abroad, are welcomed by Dr. Lie and are permitted to accompany him through the wards, male and female, where good use is made of the ample clinical material in demonstration of cases. His bedside observations and gentle attentions to his unfortunate patients show a deep per-

and *lepra tuberosa-anaesthetica*, according to the classical differentiation of Danielssen. The greater number are from the peasant classes and show evidences of having suffered the hardships of poverty and privation. One is struck by the number of lepers who attain advanced age, especially those who suffer from the anaesthetic type. For the three year period ending in 1904, of 34 who died in Pleiestiftelsen, 20 were over sixty years of age, the oldest was 95; of 17



PLEIESTIFTELSEN FROM STREET.

sonal interest and sympathy, and reveal alike the scientific student and the even finer qualities of the humane and kindly physician. In the conduct of his clinic he recalls Chaucer's description of the Oxford scholar of the Canterbury Tales, whose spirit is also that of modern, scientific medicine. "Gladly wolde he lerne, and gladly teche."

The patients are in general classified as *lepra tuberosa*, *lepra maculo-anaesthetica*,

who died in 1904, 11 were over 60, and of these 9 were 70 or over, one was 80, and one 84 years of age. Many of these patients had been lepers from early youth. It is invariably the anaesthetic forms which attain this extreme longevity, the tubercular form being more progressive and fatal. In the opinion of Hansen nearly all the maculo-anaesthetic patients are cured before they die if they only live long enough, that is, their disease ceases to be

active, in the same sense that a devastating conflagration may at last spend itself, but the patient is invariably left a pitiable wreck and a ghastly caricature of his former self. These advanced cases in the wards of Pleiestiftelsen resemble blanched mummies with their white, atrophic, tightly drawn, parchment like skins, as thin and as translucent as cigarette paper, through which the underlying blood vessels, and even the bones are often plainly visible. They share with the tubercular cases in the hideous mutilations of the disease. Fingers and toes frequently undergo spontaneous amputation from necrosis and absorption of the small bones. The palms and soles are marked by deep rhagades and incurable, indolent ulcers. There are paralytic conditions resulting in subluxations and *main en griffe* deformity. The most revolting disfigurements of all are perhaps those of the face. The nodular infiltration of the integument produces the characteristic leonine expression, and in the anaesthetic form there is frequent partial or complete disappearance of the nose, ears, lips and eyelids. Twenty-five per cent of all the cases are blind, and ectropion is a common eye condition with loss of the brows and eyelashes.

Tuberculosis is a frequent complication, and nephritis is usually present. In seventy-five of 109 cases, nearly 69 per cent, the urine contained albumin according to the observations of Dethloff, one of Lie's assistants. Inhalation pneumonia, erysipelas, septicaemia, laryngeal stenosis, organic heart disease, and amyloid degenerations of the viscera are the common causes of death. The liver and spleen are usually enlarged.

There is a disproportion between the sexes, more than one and a half to one of women to men. In Norway the nodular is more than twice as frequent as the anaes-

thetic, according to Hansen and Looft. Danielssen and Boeck estimate the anaesthetic type at 33 per cent, the tubercular 51 per cent, and the mixed 16 per cent. This shows for Norway a rather unusual incidence of the anaesthetic form. In India, the Hawaiian Islands and other countries where leprosy abounds the tubercular is more common, and Hutchinson, as a result of his travels and observations, considered that leprosy in Norway is an especially severe type of the disease.



NORWEGIAN LEPROSY.
Tubercular Type (Leloir).

As in tuberculosis, nearly everything in the materia medica has been employed in the treatment of leprosy, and all with as little real effect probably, as the fantastic hvalsauki of the time of the Vikings. At Pleiestiftelsen the remedies recently in most favor have been Unna's caustic paste as an application to ulcers, and the different preparations of iodine such as iodoform,

europhen and airol. Indolent ulcers are touched with silver nitrate, and the great Indian remedy chaulmoogra oil is employed both externally and internally. The Finsen light has also been tried. Hetol injections have been used without effect. Freezing the tissues by ethyl chloride has been tried, and bichloride of mercury has been used in injection. Iodide of potassium has a deleterious effect. It was first used and abandoned by Danielssen who found it to cause a rapid infiltration of new areas. The remarkable similarity of the

value. Lie says he has not seen any cases in which treatment has been of any great use. It is rather curious that the effect of an attack of erysipelas is sometimes favorable, as it is in some cases of malignant tumors. The nodules become flattened and the deep infiltration is often considerably diminished. Another singular fact is that the nodules and infiltrations decrease and indeed may seem almost to disappear during the progress of tuberculous disease when this occurs as a complication. The difficulty in the treatment of leprosy, as pointed out by Lie, is the failure of reaction of the tissues, a factor that is also present and makes so discouraging the treatment of malignant disease otherwise than by surgery.

Last summer at Pleiestiftelsen experiments were being made with hypodermatic injections of nastin, a specific treatment advocated by Deycke who describes his preparation as "the glycerin ester of a high molecular fatty acid" obtained from pure cultures of a streptothrix invariably present in tubercular leprosy. According to its originator the leprosy nodules are disintegrated and a true bacteriolysis of the lepra bacillus occurs as a result of the action of the remedy on the fatty envelope of the bacillus. How lasting these effects may be only a longer experience can show. It must be remembered also that there are occasionally observed extraordinary periods of temporary improvement in the natural course of the disease, which are spontaneous and not at all influenced by treatment.

It is frequently stated that in no instance has contagion in the leper hospitals of Bergen occurred from patient to doctor, nurse, or helper, and the physicians in attendance seem to take no more than ordinary precautions of cleanliness in their



NORWEGIAN LEPROSY.
Tubercular Type (Leloir).

leprosy bacillus to the tubercle bacillus in physical appearance and staining properties, early suggested the employment of weak solutions of tuberculin in leprosy, and this was tried, with similar unfavorable effects as had been observed from potassium iodide. Apparently as far as any real or permanent effect upon the disease is concerned no treatment has been of much

contact and relations with the patients. At St. Jørgens Hospital some of the attendants have lived more than thirty years in intimate contact with lepers and no trace of the disease has appeared in them. G. A. Hansen has, however, reported two cases in which there is a strong presumption that the disease was acquired by direct contagion in the Lungegaard Hospital, one in a man who was for four years a bath attendant, the other in a woman who was for ten years a laundress at the hospital. In neither case was there any taint of leprosy in the patient's family, and all other sources of contagion could be fairly excluded.

For the American visitor an interesting feature of the leper hospitals in Bergen, which the writer had the privilege of studying under the direction and through the courtesy of Dr. Lie, was the presence of a number of returned Norwegian leper immigrants whose disease had not been detected while in the United States. This is not surprising as a number of these patients showed only very slight changes which would require for their recognition an examination by an expert skilled in the early diagnosis of leprosy. One case in particular of a young girl showed simply on one side of the neck a slight induration of the skin with an apparently trifling pigmentation and dilatation of the superficial veins. It is necessary to examine carefully for anaesthetic areas, and there are relatively few physicians in our own country outside of the larger cities who have had the experience to make them competent to diagnose such cases.

From 1857 to 1900, according to the official statistics of Hansen, 307 lepers are known to have emigrated from Norway and probably with few exceptions have been domiciled in the United States. For the

period from 1900 to the present time a considerable additional number of leprosy families should be included in this estimate. It is certainly known that 180 of whom Hansen has definite records have emigrated to this country. Of this very considerable emigration of lepers practically all have eluded the vigilance of our immigration inspectors. A letter to the writer from the Acting Commissioner-general of Immigration, dated December 30th, 1908, states: "The only case coming within the knowledge of



NORWEGIAN LEPROSY.
Anaesthetic Type (Leloir).

the Bureau where an European alien has been deported upon this ground is that of Bertha Osis, who was detained at Penikese Island, Massachusetts, on account of leprosy, and was deported in the spring of 1908, via New York. No special instructions have been given to the medical officers assigned to immigration work with regard to detecting this disease among Norwegian immigrants." It would appear that our

liberal immigration policy has been quite as much a factor in diminishing the leper population of Norway as her measures of segregation and the notable improvement in living conditions which has taken place in that country during the last quarter century.

Hospitalization of lepers in Norway is not compulsory. According to the laws of the country segregation is encouraged and elaborate provision is made for the care of lepers in institutions where they receive humane and skillful treatment. The leper may, however, remain at home, pro-

a long and intimate exposure in order to be communicated. They regard with scant favor the fish-eating hypothesis of the origin of the disease. This theory which is as old as the time of Galen has recently been revived by Hutchinson. It was combatted by Danielsen who maintained as early as 1848 that the inhabitants of the Norwegian fjords where leprosy is most prevalent generally ate only fresh fish or fish that is very salt. 'Three years' personal acquaintance with Norway and a familiarity with the peasant life of the fjord country show at the present day little of the alleged fondness for stale and decomposing fish so insisted upon by Hutchinson. On the contrary the excellent Norwegian housewife has a marked predilection for buying her fish alive from the great sea water tanks of the wonderful fish market of Bergen, which is unrivalled in the world. She would regard with fine disdain the cold storage product of New York, or the less attractive stalls of dead fish at Billingsgate.

Leprosy or *spedalskhed*, in the vernacular of the country, may be regarded in a sense as the national disease of Norway, and Bergen has been a center to which pilgrimages for the study of leprosy have been made for many years, her hospitals having been the scene of the labors of many distinguished pathologists and dermatologists, among whom may be mentioned from other lands, Virchow, Hebra, Neisser, and Leloir. In Norway, Hansen, the son-in-law of Danielsen and the discoverer in 1872 of the *lepra bacillus*, has continued and extended the studies of his illustrious predecessor who first clearly differentiated the anaesthetic and tubercular forms, and in Lie, Borthen, Holmboe and Kaurin the younger generation of Norwegian physicians is well represented in the foreground



NORWEGIAN LEPROSY.
Anaesthetic Type (Leloir).

vided he has his own separate bed and his own eating utensils, which with his clothing must be washed separately. These provisions of the leper law of 1885 must be complied with to the satisfaction of the district physician appointed by the government who is also chairman of the local board of health.

Norwegian leprologists are all contagionists, agreeing that the disease requires

of the scientific study of leprosy. Hansen has predicted that the disease will be extinguished in Norway in 1920 if the present rate of decrease continues. To the attainment of this desirable condition for Norway the United States may justly feel that she has contributed in no small degree in the generous reception we have accorded leper immigrants from that country. With the extinction of the disease in Norway, and its increasing prevalence in our Northwestern states, in Louisiana and California, we may look forward at no distant day to the establishment of the leprosaria which are even now needed in this country, and to the time perhaps, when the unenviable distinction of being a center for the study of leprosy may have passed from Norway to the United States.

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GRIPPE—ITS ETIOLOGY AND METHODS OF TRANSMISSION.

BY

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The great interest aroused by la grippe or epidemic influenza began with the appearance of the serious epidemic of 1889. Since then we have had it with us at certain seasons every year, although in not always so virulent a form as on its first appearance. This last appearance has girdled the earth. Beginning in Bokhara in May, 1889, it reached St. Petersburg in October, Berlin in November, London in December, and the eastern cities of our country about the middle of December. Later it reached Mexico, South America and Australia, thus sparing no climate, and showing itself in hot as well as cold seasons, on plains as well as elevations. Since 1173 there have been more than a hundred epidemics described. As a rule the disease begins in the East and travels westward, following a trait of most epidemic infectious diseases. Its spread does not seem to be influenced by prevailing winds but appears to follow the direction of general travel.

Formerly the occurrence of epidemics of all kinds was referred to coincident natural phenomena, such as earthquakes, volcan-

ic eruptions, the appearance of comets, etc. No doubt we can all remember some of the interesting speculations indulged in by numerous authorities in the beginning of our epidemic ten years ago. There can be no doubt that the immediate cause of the disease is spread along the routes of commerce—for it moves no faster than existing means of travel, and each of the later pandemics has been observed to spread more rapidly in proportion to the improved facilities for transportation. Moreover it has been noted by observers that the disease frequently spreads more rapidly from a trading center to capitals and other commercial cities, than to neighboring villages. From these facts, and reasoning from the analogy with other infectious diseases it was natural early in the recent investigations to suppose the existence of some micro-organism as a specific cause of the disease. There is no question that other influences are at work in the dissemination of this poison. We know that epidemic influenza, as a rule, is most virulent and most common during the seasons when respiratory diseases are most prevalent, the result of certain peculiar climatic conditions. As grippe is pre-eminently a disease of the respiratory organs, it is easy to understand how its spread may be favored by such conditions. However, the disease is often prevalent during the pleasant months and under conditions which prove that atmospheric influences alone will not account for the appearance of an epidemic. As to the influence of age on the susceptibility of persons, those between 20 and 40 are attacked in greater numbers than those younger or older. Regarding class, naturally those most exposed to unfavorable conditions of hygiene or contagion suffer most. Occupation

would seem to work an influence here, yet statistics are so contradictory as to be of little value, some authorities apparently proving that out door exposure favors infection, others the reverse. Some occupations are claimed to afford protection against influenza—notably working in tanneries, chloride of lime, tar, cement, sulphuric acid and coke works. After all, it is probable that "occupation and social position only in so far exert an influence on the frequency of the disease, as certain occupations and positions in life lead to more or less contact with travellers."

Where we find local epidemics remaining confined to a certain community, such as have frequently occurred since the great pandemic, we must assume that the soil was not favorable for its dissemination—or even that a majority of people in that neighborhood had acquired a certain immunity through previous attacks. That influenza is a contagious disease I believe there can be no doubt. We have all seen instances where during the prevalence of the disease a whole family would remain unaffected, until one member of the family brought it home, when a number of cases would appear in the house. Opposed to the assumption that influenza is contagious, and can be transmitted only by human intercourse, is the theory that it is miasmatic in nature. The studies of the bacillus of the disease which we shall consider later, makes the miasma theory highly improbable, and the manner of dissemination of the disease seems opposed to the idea that miasmatic infection is necessary. However, when influenza first attacked man, was its nature not probably miasmatic? It is naturally difficult to prove absolutely one or the other of these theories, and both sides cite apparently strong instances of infec-

tion in support of their individual views. In reviewing the evidence the balance is far in favor of contagion—that the disease is transmitted from man to man, by infected clothing, etc. There are numerous tales of institutions remaining free from infection during an epidemic, until a physician coming directly from a gripe patient introduced the disease, when it would spread with startling rapidity. On the other hand many instances have been reported in which absolutely no source of contagion could be found, and the appearance of the disease at isolated spots seemed so striking that it appeared almost as though the germs had fallen from the clouds. Considering, however, the many ways in which an infectious contagious disease may be transmitted, such instances lose much of their weight.

While in all places where investigations were made, different micro-organisms were found in the secretions resulting from influenza, their specific character could not be proven. A new phase, however, was put upon the subject by the results of the labors of R. Pfeiffer, at the Institute for Infectious Diseases in Berlin. In January, 1892, Pfeiffer described a specific bacillus found in pure culture in the bronchial secretion of uncomplicated cases of influenza. These organisms were found in protoplasm of pus cells in great numbers. By careful control experiments Pfeiffer proved them to be absent in ordinary bronchitis, pneumonia, and pulmonary tuberculosis. This bacillus had first been observed early in the epidemic of 1889. Pfeiffer produced cultures in agar, and later showed that by smearing the surface with blood or haemoglobin, many other media could be used. The cultures on the blood-media were successful even to late generations in pro-

ducing in rabbits and particularly in monkeys a condition similar to influenza in man, when placed on the mucous membrane of the respiratory tract. Weichselbaum and Beck substantiated Pfeiffer's claims, and Canon found the bacilli in the blood of influenza patients in 24 consecutive cases. Pfeiffer never found them in the blood, although he could demonstrate their presence in the sputum of nearly every case. It has been shown that 24 hours after inoculating a rabbit with blood from a patient with influenza, the organism can be found in the blood of the rabbit. Pfuhl found them in the sputum and showed that they apparently diminished in numbers with the subsidence of the fever. Thornbury describes the bacillus as being $\frac{1}{2}$ the length of the septicaemia bacillus and of nearly equal thickness. The germ is aerobic, and is destroyed by drying, or by five minutes exposure to a temperature of 140 degrees. Its colonies appear as minute, translucent drops, which do not tend to coalesce, following the streak of inoculation. This micro-organism is generally admitted to be the specific germ of influenza. Pfeiffer decided that:

1. Any development of the organism outside of the human body, in the ground or in water, is impossible.
2. The spread of infection by dried and powdered sputum can occur only to a very limited extent.
3. The contagion is conveyed, as a rule, by the recent still moist secretion from the nasal and bronchial mucous membranes of patients.

He has demonstrated the presence of the germ in overwhelming numbers in secretions of tissues from the respiratory tract, and even in the pus of empyema following influenza-pneumonia. The bacilli

have been found in the sputum even as late as four months after the onset of the disease and ten weeks after the termination of the epidemic.

Many reports would seem to establish without question that Pfeiffer's bacillus is *the* specific cause of influenza. For instance when influenza reappeared in Freiburg in 1893, Baumler demonstrated the presence of Pfeiffer's bacilli in the third case. This is all the more remarkable, as the patients were not at the time suspected of suffering with influenza. After the disease was introduced into the local hospital the germs could be demonstrated in nearly every case. Did the inoculation of cultures of Pfeiffer's bacillus cause a typical influenza in animals, no possible doubt could exist as to its being the bacterium of grippe. Animals seem not to be subject to grippe—yet the symptoms following inoculation in monkeys are fever, beginning 20 to 30 hours after inoculation, remittent in character, ending by lysis. The animals are greatly prostrated, and they have a cough. When they recover, the same inoculation some weeks after acts much less severely. Associated with Pfeiffer's germ are frequently the commoner organisms. The streptococcus, staphylococcus, and pneumococcus, exerting their own peculiar influences in combination with the influenza bacillus no doubt are responsible for a variety of the types of the disease.

Coming now to a consideration of the method of infection, it appears from the results of many experimenters that the influenza bacillus lives longest and develops best in a temperature about that of the human body; that if moist it can retain its vitality for some time. The various animal experiments have shown that

infection occurs as a result of implanting the cultures on the mucous membrane, without any abrasion of the surface. Infection is more certain when some solution of continuity exists. With such weather as we call "grippe weather" we have, I think, conditions fairly resembling those the laboratory shows enhance the growth of the bacillus. Such weather gives us an absence of direct sunlight, and a foggy, damp atmosphere. The temperature does not enter into the question, since the organism finds the favorable heat conditions in the air-passages.

Dignat of Paris, after a careful study of the subject, considers an abnormal increase in the barometric pressure, abnormal temperature ranges, lowering of the electric influence, predominance of northern winds, and a weakening of the actinometric degree to be the meteorological conditions preceding epidemics of grippe. The true influence of atmospheric and barometric conditions on the growth and dissemination of the germ are rather vague, as we see grippe frequently epidemic under entirely different atmospheric conditions. As previously stated, the bacillus probably gains an easier foothold on its favorite ground at the seasons when our respiratory tracts are most severely taxed.

Just how the organism is transferred is still disputed. It is reasonable to suppose, however, that the germs are disseminated mostly by the sputa and nasal secretions of infected persons, and taken up by dust, fog, skirts, etc. This seems to a degree in opposition to the laboratory statement that the germs if dried are destroyed. So far as I can find, no spores have been demonstrated in the germ but may they not exist for all that? Na-

ture as a rule has provided some method for perpetuating under adverse conditions even such objectionable things as disease germs. However, there is no evidence that any other mode of transmission exists. Experiments with the bacillus prodigiosus have shown that after inoculation in the buccal mucous membrane of pure cultures, culture plates four or five feet in front of a person coughing were thickly studded with colonies. Also that a plate four feet *behind* the subject was infected. Above all it was found that it was nearly a half an hour after the act of coughing before all the bacteria expelled had settled to the floor. So far as I know no direct experiments have been made with Pfeiffer's bacillus, but it seems to me similar investigations might throw much light on the subject of contagion.

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A CRITIQUE OF THE SO-CALLED MODIFIED RADICAL MASTOID OPERATION.¹

BY

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The modified radical mastoid operation was first tried by Körner in 1899 (*Die Eitrige Erkrankungen des Schläfenbeins*) who stated that in certain selected cases he had modified the technique of the radical mastoid operation in so far, in that he retained the ossicles and membrana in situ. This also constitutes the basis of the technique of the modified radical mastoid operation as devised by Heath (*London Lancet*, 1904 and 1906); by W. S. Bryant (*Trans.*

Am. Otol. Soc., 1906) and finally by Ballenger, (*Jour. Am. Med. Assoc.*, Sept., 1908). In addition, Dr. Jansen of Berlin in discussing Ballenger's paper, states that he described a similar procedure as early as 1893.

Had those advocating the newer technique, merely enunciated the indications for its employment rather than endorsed it as a substitute for the radical mastoid operation, then it would have remained a question for the experience of otologists in general, either to substantiate their observations or to report adversely upon the new operation after having given it a fair trial. Careful examination of the published case-histories, however, and a study of the theories upon which its indications and rationale have been built up lead to conclusions which call into question both the theory and the rationale of this method of operating,—a discussion of which is here presented.

Körner has discarded the procedure; Jansen and Ballenger have prescribed limits to its employment; while Heath and Bryant advocate it as a measure to be used presumably as a substitute for the radical mastoid operation, because from their cases, they find they have secured better results in regard to the hearing, than with the older operation.

The position taken by Jansen and Ballenger permits of academic discussion and partly, it may be tested; but that assumed by Bryant and Heath, especially the latter, is hardly tenable because the results they obtained from the use of the modified technique as compared with the results obtainable from the ordinary radical mastoid operation *performed upon a group of similar cases*, would be a comparison of two totally different things, in addition to the

¹ Read at the Southern Section of the American Rhinological, Laryngological and Otological Society, Richmond, Va., Feb. 13, 1909.

fact that we do not usually perform a radical mastoid operation upon cases giving histories similar to those which these gentlemen used as a basis for their observations.

Bryant says that he found employment for the modified radical operation "*usually in cases of acute extensive involvement of the temporal bone, more rarely cases of otitis media purulenta chronica, with a more or less intact sound conducting mechanism.*" I cannot find a report detailing his cases of chronic otitis media purulenta upon which he operated, using the modified technique. In the transactions of the American Otological Society, 1906, there is a report detailing one case, a lad of 17 years, who had an acute attack evidencing "*marked swelling of the temporal region*"...which.... "*lifted the auricle from its natural position.*" I find the same case reported among a series, as Case II (*Boston Medical and Surgical Journal*, March 7, 1907). This then was a case of acute mastoiditis, giving a history of previous attacks of otitis media. When the result obtained by Bryant regarding the hearing in this case, is compared with the result regarding the hearing in Case I of the same series (same publication) where he performed a simple mastoidectomy, there seems to be no apparent reason why simple mastoidectomy was performed in the one case, and the modified radical mastoid operation in the other case, the hearing in both, after operation, being practically the same.

Heath's report (*London Lancet*, Aug. 11th, 1907) gives a very brief history of ten cases upon which he operated using the modified technique. In all but three of these cases, the histories show them to have been acute attacks of mastoiditis. Six cases presented subperiosteal swellings behind the

ear. One case only is stated "*not to have been an acute attack,*" and the history of two others is so obscure, that no definite idea is obtainable as to the actual conditions presented by them.

The majority, therefore, seem to be cases of suppurative otitis media having a duration which ranged from three months to several years, the greater number being only of some months' duration.

A study of the cases does not bear out Heath's assertion that the "*opinion can be safely expressed that all the cases recorded above were in such a condition and had such a history as would with the experience hitherto available suggest to the surgeon the necessity of the radical mastoid operation.*" I venture to say that the majority of them would have yielded to simple mastoidectomy with as brilliant results in regard to the hearing as were obtained by the modified radical mastoid operation. Finally, Cases IV and VI, were unhealed at the time of Heath's report, nor does he state how long subsequent to operation this report was made. The histories of these unhealed cases would seem to classify them as cases of chronic purulent otitis media.

Heath advances the proposition that the duration of the suppuration is of no moment. He states that "*Observation had previously been made to the effect that the same condition had frequently appeared to be present after suppuration of three months' duration as after three, or even thirty years.*" While this observation is not questioned, yet the author of it has entirely left out of account the actual pathological condition present in the middle ear and the mastoid process which showed no progression or advancement whether seen in a case of three months, or thirty years duration. In a paper before the Eastern

Section of the American Rhinological, Laryngological and Otological Society, last month, I attempted to outline the pathological lesions which are presented under the general clinical term of otitis media purulenta chronica. Among these lesions, a chronic suppurative inflammation of the mucous membrane lining the tympanic and antral cavities, would seem to be the only lesion whose clinical and pathological aspects could account for this observation of Heath. Furthermore, it is in just this type of case that acute exacerbations, or more properly, the superimposition of acute mastoiditis upon the chronic suppurative lesion of the mucosa is to be expected, and reading Heath's history reports, substantiates the opinion that his cases belonged to this group of otitis media.

Radical mastoid surgery is not indicated in such cases, and therefore the substitute advocated is not required. Simple mastoidectomy has in my own experience proven ample to meet the emergency presented. One such case, recently reported although complicated by a sinus thrombosis, recovered completely after simple mastoidectomy and resection of the jugular, excision of the thrombus, etc., (*Arch. of Otolaryngology*, Vol. XXXVII, No. 6, 1908).

Since the cases used by Heath to illustrate the type of middle ear suppuration amenable to treatment by his modified technique, are not such as we would ordinarily submit to the radical mastoid operation, the question of the advantage of the modified radical over the radical mastoid operation resolves itself into a discussion of a question which none of the advocates of the modified radical operation have touched; namely, does or does not the simple mastoid operation meet all the requirements for surgery indicated by the observation of Heath?

Both Bryant and Heath lay great stress upon antral drainage. Heath particularly does not want the drainage to pass through the tympanic cavity. Simple mastoidectomy opens the antrum from behind, it drains the entire aditus, it does not dislodge ossicles or ligaments (a condition demanded by Bryant) nor does it interfere with hearing. Too much time and space would be needed to detail all the arguments advanced by Heath which are met by the performance of simple mastoidectomy. His publications are easily available and members can convince themselves on these points.

Now, for a moment, let us take up the position of Jansen and Ballenger. Jansen (*J. A. M. A.*, Sept. 26th, 1908) recommends the operation (the Meato-mastoid) "*in cases of acute suppuration in which a long after treatment could be foreseen,—for instance in scarlet fever,*" or "*where surgeons did not feel competent to perform the radical operation.*" Aside from the fact that in acute suppurations it is certainly more surgical to keep the posterior wound open for drainage and cleansing rather than to incise the external auditory canal and place a flap into position, and suture the outside wound, thus being forced to dress the wound cavity through a smaller opening than would obtain with simple mastoidectomy and open after treatment, Dr. Jansen has failed to give us the signs by which a long after treatment could be foreseen. My own experience with post-scarlatinal mastoiditis does not warrant the statement, that a post-scarlatinal case, in itself, necessarily means an unusually long after treatment. Again, any man who feels himself incompetent to perform the radical mastoid operation, *would certainly be incompetent* to carry out the involved tech-

nique of the modified radical mastoid operation. Furthermore, Jansen states that he "*believes this method (of operating) to be especially indicated when the operator does not feel that he can perform the radical operation with preservation of the ossicles, without dislocating the incus.*" Here again, he fails to give indications for such an operation, and on the other hand, the entire principles under which otology has accepted ossiculectomy must be an error, to give a reasonable rationale for a radical operation, to cure a purulent otorrhea, *with preservation of ossicles.* Experience again has shown that there is not much of either drum membrane or of the greater ossicles left to preserve in this type of case.

Ballenger in advocating the modified radical, termed by him the meato-mastoid operation—is the first to separate the indications for his procedure from those demanding the radical. In his paper (*J. A. M. A.*, Sept., 1908) he details no cases. He says that he has employed the method for one year, and has performed only sixteen such operations; of these, one he later converted into a radical. I regret that his case-histories are not available, and therefore, an analysis of them must be omitted.

As to the rationale of his method, he lays down the following principles:—(a) "*The promotion of healthy granulation tissue and epidermatization of the walls of the mastoid wound*" . . . (b) "*The establishment of ample drainage . . . ; and adds 'that if the above conditions are established in properly selected cases of chronic mastoiditis the results will be as good as if the radical operation were performed, in one respect they will be much better, namely, the hearing will be much improved often approaching normal.'*"

The application of his principles depends on the *proper selection* of cases of chronic mastoiditis. Upon what data shall the selection be made? Chronic mastoiditis is a general term, grouped under which are varying pathological lesions. Ballenger has not told us the pathological lesions in the mastoid process which will yield to the meato-mastoid operation and will *not respond* to the simple mastoid operation. Simple mastoidectomy meets the requirements of the rationale of the operation, excepting the epidermatization of the walls of the mastoid wound, nor is this latter necessary in such cases.

Regarding the indications for the meato-mastoid operation we note that he tries local measures in cases of simple otitis media and mastoiditis (without necrosis or other complication) but if the cases of "*the above type*" resist the treatment suggested, they may be subjected to meato-mastoid operation with almost certain success." He adds "*By this operation, the secretions from the middle ear escape through the Eustachian tube and the perforation in the drum head.*"

Would not the secretions from the mastoid antrum and cells be likewise diverted from the tympanic cavity by simple mastoidectomy? There remains then only the tympanic secretions, and these would as easily find exit through the drum perforation and into the Eustachian tube, after simple mastoidectomy as under the method advocated by Ballenger. His proposition of establishing adequate (free) drainage is thus met. Although he states the possibility of a superficial necrotic process, even if extensive, of being cured by the meato-mastoid operation, nevertheless he recommends the radical in such cases. With this recommendation I am heartily in accord.

Furthermore, he states that "*in those cases in which the necrotic process is limited to the mastoid antrum and cells, the meato-mastoid operation is indicated.*" This proposition is open to serious question. The posterior meatal wall and the lateral adital wall form part of the anatomical boundaries of the antrum. If necrotic or carious changes affect the bony walls, the suppuration will continue until nature or the surgeon removes them. The removal of all accessible necrosis is the first principle of mastoid surgery in chronic bone lesions. We know from many pathological examinations, that the chronic bone lesions in the temporal bone involve the ossicles, the walls of the aditus, antrum and eventually the mastoid cells. Küster (Principles of Treatment of Suppuration in Cavities having Bony walls, (*Deutsch. Med. Woch.*, 1889), long ago enunciated the principle of removing the diseased bone as far as possible. Therefore any operation in cases presenting necrotic lesions, which removes other parts and yet keeps intact the original seat of the disease,—retention of diseased ossicles, and posterior meatal wall—absolutely fails to meet the requirements presented by the pathological lesion.

It would seem, then, from Ballenger's statement of indications that the meato-mastoid operation must necessarily have only a limited applicability and even in those cases wherein it meets the surgical requirements, he has failed to demonstrate its advantage over the simple mastoid operation. Finally, personal experience with cases of chronic middle ear suppuration has shown, that when after a time, local treatment succeeds in establishing a cure,—that is, stoppage of the otorrhea, that there is usually a very marked diminution of hearing as the result, because of the

advent of scar tissue which necessarily forms, together with connective tissue adhesive bands within the tympanic cavity. How the modified radical mastoid operation when performed in cases of chronic middle ear suppuration of long standing which are resistant to local measures, can, by preserving more or less diseased ossicles, and drum head, preserve hearing,—is a question which has remained unanswered scientifically by all the advocates of the modified radical mastoid operation.

Summarizing we contend:

1. That the simple mastoid operation if performed on the same class of cases would yield as good results in regard to the hearing as does the modified radical operation, and it also would better meet the indications for surgery in these cases.

2. That the modified radical operation does not meet any of the requirements of radical mastoid surgery.

3. That in cases of actual otitis media purulenta chronica, if of long duration, the modified radical operation can not scientifically be expected to restore to functional activity a diseased ossicular chain, or heal necrotic areas in the annulus tympanicus, tympanic, adital and antral walls.

4. That as a substitute for the simple mastoid operation, it offers no advantage.

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LOCAL USES FOR GUAIACOL.—Appleby, noting that guaiacol applied to the skin, is rapidly absorbed and exerts a powerful antipyretic action, applied it in a case of nephritis with slight convulsions and a full, bedhard pulse. Twenty-five drops were rubbed into the skin of the abdomen. The relief was marked. He then used it in the same manner in a few cases of puerperal eclampsia, the results being surprising and happy. The convulsions recurring in one case when the anesthetic had worn off, fifty drops of guaiacol were rubbed into the abdomen; in a few minutes the pulse became soft, there was free diaphoresis and convulsions ceased.—*Boston Medical & Surgical Journal*.

**ELECTRICITY IN THE TREATMENT
OF EXOPHTHALMIC GOITRE.**

BY

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Most of the brochures on this disease have been written on the line of medical and surgical treatments; and although cures have been reported, the general results have been unsatisfactory.

The etiology and pathology have been quite vague, very little progress having been made during the last forty years. Most authorities agree that the disease is incurable, although perhaps some internal medication plus a proper diet and hygiene may assist in an alleviation of some of the most prominent symptoms, and even produce a spontaneous cure.

I find that in several of the cases reported as cured or greatly benefited, most of the writers have conceded that electricity has been the most potent factor. Yet this assertion will not hold good in regard to all forms of electrical currents. The proper currents, of sufficient penetration, must be used, and applied at such points and of regulated polarity as to be effective.

I have treated three cases, where a violent and sudden shock seemed to have caused this disease to appear almost spontaneously. Whether this sudden outburst of nervous force can explain or facilitate our etiology of this condition, seems to be doubtful, although the reflexes and general symptoms are certainly classed under the head of nervous phenomena.

We now know that the thyroid gland is the primary seat of the trouble. It may produce a toxin which acts as a nerve

poison; or the nervous system may fail to control the proper functions of the gland, causing a non-elimination of thyroid secretion. Either one of these conditions would explain the abnormal or enlarged condition of the thyroid resulting in goitre.

The most prominent symptoms of this disease are: 1. Enlargement of the thyroid gland of the neck. 2. Irregular action of the heart (usually tachycardia). 3. Marked nervous conditions. 4. Protrusion (exophthalmus) of the eyeballs. Some of the less prominent conditions are insomnia, anemia, hysterical outbreaks, restlessness, dyspepsia, neurasthenia, and exaggerated temper.

Our plan of treatment must be designed to diminish the size of the thyroid; reduce the pulse, and regulate the heart's action; remove the growths or new tissue formed behind the eyeballs; improve the tone and condition of the nervous system. The sympathetic nervous system, together with the pneumo-gastric nerve, must particularly receive a share of electrical attention.

In my experience, the following forms of electrical energy have been used, and produced good results,—the direct current; the static wave current; the high frequency; and Röntgen rays.

In the majority of cases, the direct current will be found the one method surpassing all others. It will require considerable experience in its method of application, as the strength must only be powerful enough to be well tolerated by the patient's physiological condition. I have seen the milliamperage so variable, that no positive rule can be advised. Also, the size and quality of the electrodes play an important role combined with the proper polarity. It is almost a certainty that the cathode will be the selected pole to be placed directly

over the enlarged gland; and if of proper size and material, a current of sufficient strength can be used, even to seventy milliamperes.

If, however, the electrodes are not properly constructed of the right materials, then the sensitiveness of the patient's skin will prevent a high enough milliamperage. The resistance of the skin must be overcome in order to use strong currents, otherwise the penetration of the electricity will not be sufficient to reach the gland in all its parts.

I have frequently used potassium iodide on the cathode where the milliamperage did not exceed thirty or forty.

The current must always be turned on and off in an ascending and descending order, otherwise shock and severe pain will ensue. This can readily be accomplished by using a sliding rheostat.

Where there is great protrusion of the eyeballs, the new formation posterior to the eyes must be treated by absorption, using glass cup electrodes filled with moistened absorbent cotton, and fitting tightly over each eyelid, with slight pressure on the eyeball. The current must be used starting with a low milliamperage, gradually increasing with each subsequent treatment.

Applications twice a week must be made to the pneumogastric and sympathetic nerves for the effect on the heart; although the reduction in size of the thyroid will be followed usually by more regular heart action.

The static wave current can be resorted to more frequently, daily seances being applicable. The spark gap must be arranged with not too rapid a discharge. With the vibrations properly applied to the thyroid gland, the effect will not be painful and decided metabolic action will result.

The high frequency current, when applied to the gland, causes increased cellular ac-

tivity and metabolism. There is also a sedative action from this current on the nervous system, producing an antispasmodic and relaxing effect. High frequency applications should be made, for a short time, over the eyes; also the high frequency effluve may well be applied over the cervical and dorsal region of the spine.

The Röntgen rays act quite favorably in some forms of goitre. The best results require long, patient treatment, ranging from two to ten months. I have always used a medium vacuum tube at a distance of about twelve to fourteen inches, repeating the exposure sufficient to cause a mild dermatitis. The static wave current is a useful adjunct to the X-ray; and I am inclined to believe that the combination of the two, using alternate days, would be beneficial.

In looking over the various reports, I find the improvements are noticeable in from two to six weeks, that *positive* and *decided* improvements have been seen in about seventy percent of the cases treated by radiotherapy.

There is one other form of electrical energy which, however, the majority of electro-therapists seem to be not well versed in, and that is electrolysis. This plan, no doubt, is thoroughly rational, but as to its being practical there seems to be more or less dissension. The treatment consists in the insertion of a needle, or needles, attached to the cathode. A local anaesthetic should be used, otherwise much pain will be produced. The electrolytic action of the current causes a partial destruction of the thyroid gland by changes in the molecular arrangement of the tissues, and the continuous removal of fluids from one pole to the other. In this form of electrical application, external sloughs and scars are liable to result.

The following patients will demonstrate the uses and results obtained by the various forms of treatment above enumerated:—

CASE 1. Mrs. G. R., aged 54. Five years ago house took fire and destroyed property and most of its contents. Immediately following this disaster, insomnia and general nervous excitability occurred. This was soon followed by protrusion of the eyeballs, together with enlargement of the thyroid gland. The pulse varied from 110 to 125. Capricious appetite, and at times, conditions of melancholia. I saw this patient about seven months following the shock she had experienced.

The direct current was resorted to, using a clay pad or electrode about six inches in diameter. The minimum dose was 15 milliamperes of twenty minutes duration. This was increased gradually until seventy milliamperes was reached, and continued at this strength for several weeks. The treatments were applied from three to four times per week.

There were decided results noticed after the first five treatments. The nervous excitement disappeared; appetite became normal, heart beats reduced to 90 to 100. About five months time showed a complete reduction in the enlarged gland, and a normal restoration to health.

CASE 2. Mary B., aged 39, single. General neurasthenic. Both parents of nervous type. Grandmother had goitre. Insomnia, and closing of eyes at times caused weird and peculiar scenes to appear. Very excitable and irritable without any provocation. Lower extremities tremulous, even when sitting or lying down. Emaciation of legs and thighs. The eyes were quite prominent in their protrusion. Thyroid gland twice its size, and slight pressure caused pulsation. Pulse 96 to 112. No murmurs in heart. Extremities were cold and clammy. I was unable to get data as to exact time of commencement of enlargement of thyroid, but approximately it was of about ten months duration.

Here again the direct current was started, but not securing quite sufficient results, the high frequency was added, working the two in conjunction. The milliamperage was carried as far as 85, of fifteen minutes duration, three or four times a week. On alternate days the high fre-

quency and static wave currents were applied to the sympathetic and spinal cord. This patient made a more speedy recovery as soon as the two forms of electrical currents were used. At the termination of three months, all external appearances of goitre had vanished. In four months time the patient was in good health; the abnormal nervous and muscular conditions, as well as the tachycardia and exophthalmus had disappeared entirely.

CASE 3. Mrs. J., aged 61. No history as to cause. Thyroid has been enlarged and eyes protruding for at least ten years. Believing this condition so chronic, would require very powerful means for correction, I resorted at once to radio-therapy.

A mild, Queen regulating tube was used at a distance of ten inches from the gland; the duration never longer than twelve minutes, and the interval between treatments not over forty-eight hours. After six exposures with the tube, there was a decrease of one inch in the size of the neck. Four months seemed to show a complete eradication of the disease. The pulse, before commencing treatment, was 124, and the exophthalmus markedly prominent. Following the third X-ray treatment, the pulsations dropped to 98; the patient was calm, felt easier. This case continued to improve in all respects, even after cessation of treatments. Two months after discontinuance of the X-rayings, she wrote "that she was never so well as now."

These three patients, with their special forms of electrical applications, are examples of what can be accomplished, when the proper form of current is used.

It is quite important to remember, that the sympathetic nervous system must be included in the routine plan of treatment. This is best accomplished by the direct current applied to the sympathetic nerves and upper part of the spine.

2024 Diamond St.

In preparing the patient's meals the little individual crockery baking dishes, which can be purchased for a nickel, can be used to advantage in preparing bits of left-over chicken, fish, rice and many vegetables.

PROGNOSIS AND TREATMENT OF LARYNGEAL AND PULMONARY TUBERCULOSIS.

BY

BEVERLEY ROBINSON, M. D.,
New York City.

At the present time, there are great practical errors in regard to the proper management of laryngeal and pulmonary tuberculosis. One would almost be led to believe, unless much and long experience had proved the contrary, that mere healthful hygiene and surroundings would ultimately effect a cure in any instances susceptible of it, and especially, whenever these conditions are instituted from the inception of the disease, so far indeed, as any visible, or rational evidences would indicate.

Now this, I am confident, is wrong and unwise. Local and general medication are desirable and in many instances, *essential* to promote, or effect, a cure. And even in instances where a cure is not accomplished, the disease is frequently arrested for months and years, and if properly followed, never gets beyond the initial stage, or the stage, more advanced, when medicinal treatment was first instituted. In looking back over my notes, cases, articles written, or reported, during many long years, this conviction is simply strengthened very much, if it were possible. One great difficulty with modern medicine is the tendency to forget, ignore, or never to be familiar with, the work and observations of the physicians who have gone before. One would imagine sometimes, alas, that this work, these observations were no longer valuable, no longer true—but they are and it is up to some still alive and active, to insist upon rights and privileges. It is proven beyond doubt,

to my mind, that in skilled hands a laryngeal examination will often fix a diagnosis of laryngeal or pulmonary tuberculosis, when nothing else will. It is certain, in my mind, that proper local and general medication, will often prevent the development of pulmonary tuberculosis. It is, also, certain that without proper local medication of the larynx no general medication will always avail, (admitting best hygienic conditions and surroundings), and save the lives of a certain proportion of patients, thus threatened imminently, or already affected.

As stated elsewhere many times and with all the force and conviction I could exert, the very valuable medication referred to, is creosote medication, properly and persistently used: 1. By inhalation. 2. Internally.

New York, March 4, 1909.

THE VON PIRQUET AND MORO TESTS IN THE DIAGNOSIS OF TUBER- CULOSIS.

BY

FRANK L. CHRISTIAN, M. D.,

Physician to the New York State Reformatory,
Elmira, N. Y.

The following statistics represent the reactions obtained in three hundred individual cases equally divided between the Von Pirquet and the Moro tests.

The Von Pirquet test was made by applying a few drops of a four per cent. solution of tuberculin "old" to a properly scarified area. It was observed that for accurate results a mild scarification is essential. If blood or much serum followed, it was quite likely to destroy the value of the test by flooding out the tuberculin solution. An automatic multiple scarifier

such as is used for vaccination was tried and proved a decided failure. The best results followed gentle scraping of the skin with the point of a scalpel. Three areas each about one-half inch in diameter were made leaving plenty of normal skin between. The solution was applied to two of these leaving a third for comparison. A four per cent. solution of tuberculin in sterilized glycerine was used in many cases and gave excellent results, control tests with plain sterilized glycerine proved that no irritation was produced by the glycerine alone. The re-action occurred in all cases within twenty-four hours and in most of them within twelve hours. A number of papules surrounded by a hyperaemia area extending slightly into the surrounding skin, was the usual manifestation. In some few, considerable surface was involved and the papules and redness were strongly marked; in these cases the patients complained of itching and soreness.

The local conditions usually lasted from two to four days, but in some the area was inflamed for a longer period, a slight discoloration of the skin remaining. No systemic symptoms of any kind resulted from the tests. In all, one hundred and fifty individuals were tested with the following results:

Pulmonary Tuberculosis,	
Advanced	Negative 12
Moderately advanced	Positive 37
Pulmonary Tuberculosis,	
Incipient (T. B. present)....	Positive 18
Pulmonary Tuberculosis,	
Incipient (T. B. present)....	Negative 1
Tuberculous Cervical Adenitis...	Positive 4
Tuberculous Testicle,	
(Post operative)	Positive 1
Tuberculous Synovitis,	
(Anchylous and healed for	
years)	Negative 1
Tuberculous Asthma	Positive 1
Total	75

MEDICAL CASES.

Diagnosis.	
Acute Articular Rheumatism....	Positive 1
Sub-acute Articular Rheumatism..	Positive 2
Sub-acute Articular Rheumatism..	Negative 3
Influenza	Negative 3
Enteritis	Negative 5
Gastritis	Negative 3
Anaemia (Simple)	Negative 3
Acute Bronchitis	Negative 3
Pleurisy	Positive 1
Tonsillitis	Negative 1
Epilepsy	Negative 1
Total	26

SURGICAL CASES.

Diagnosis.	
Condylomata (Non-specific)	Negative 1
Hemorrhoids (Operative)	Negative 2
Furuncles	Negative 2
Cellulitis (Streptococcic)	Negative 1
Fracture Ulna	Negative 1
Tracheal Stenosis	Negative 1
Cystitis	Negative 1
Erysipelas	Negative 1
Syphilis	Negative 7
Acute Gonorrhoea	Negative 6
Total	23

Also twenty-six normal individuals who were tested for control and were all negative.

The Moro test is made by thoroughly mixing equal parts of tuberculin "old" and anhydrous lanolin. This preparation was then rubbed into the unbroken skin of the abdomen or chest, the area first having been thoroughly cleaned. It was observed that the re-action would occur in some instances with a mixture of one part tuberculin and four of the lanolin, but for accurate results this proportion was not dependable. It seems best to have the patient rub the tuberculin over an area not exceeding one inch in diameter. The rubbing should be continued for from three to five minutes. If the physician applies the test he should, for obvious reasons, wear a rubber glove or finger. From five to ten tests can be made with one gram of tuberculin when properly mixed with one gram of lanolin.

The re-action appears in from twelve to forty-eight hours after the inunction. Most of the patients showed the re-action within twenty-four hours. The presence of tuberculosis is manifested by the appearance of small papules and accompanying redness of the area. No swelling was observed in any instance. This condition persists for from two to six days and disappearing, leaves a slight discoloration of the skin that is visible for weeks. In no instance was there any febrile re-action or general symptoms of any kind. The local symptoms were mild in character, only a few patients complaining of itching or local discomfort. In all one hundred and fifty individuals were tested with the following results:

Pulmonary Tuberculosis,		
Advanced cases	Negative	17
Pulmonary Tuberculosis,		
Moderately advanced	Positive	27
Pulmonary Tuberculosis,		
Moderately advanced (T. B.		
present)	Negative	1
Pulmonary Tuberculosis,		
Incipient (T. B. present)	Positive	30
Pulmonary Tuberculosis,		
Incipient (T. B. present)	Negative	5
Tuberculous Cervical Adenitis.	Positive	2
Total		76

MEDICAL CASES.

Diagnosis.

Acute Articular Rheumatism	Positive	2
Acute Articular Rheumatism	Negative	4
Sub-acute Articular Rheumatism ..	Positive	1
Sub-acute Articular Rheumatism ..	Negative	4
Nephritis (Acute)	Negative	1
Enteritis	Negative	2
Asthma Cardiac	Negative	1
Bronchitis	Negative	2
Anaemia (Simple)	Negative	3
Icterus (Catarrhal)	Negative	1
Heat Exhaustion	Negative	2
Pleurisy with effusion	Positive	2
Neuritis	Negative	1
Tonsillitis	Negative	3
Gastritis	Negative	2
Goltre	Negative	1
Total		32

SURGICAL CASES.

Diagnosis.

Syphilis	Negative	3
Cranial Fracture	Negative	1
Hemorrhoids	Negative	1
Cellulitis	Negative	3
Keratitis	Negative	1
Furuncle	Negative	2
Various Fractures	Negative	3
Burns	Negative	1
Total		15

Normal individuals tested for control at the time of the various observations; negative 27.

Over five hundred cases have been previously tested by Calmette's method which with these make a total of over eight hundred. Apparently all three re-actions are of equal value provided that care is taken to secure absorption of the tuberculin. It is readily seen that this is more difficult and perhaps less certain in the Moro than in the others. The re-actions are practically constant in all tuberculous lesions. The one exception is the negative results in the advanced cases: this however does not impair their value as a diagnostic agent.

No systemic effects have resulted from the tests and the local symptoms have not been distressing. They are almost *nil* in the Moro test and caused but little discomfort in the Von Pirquet. Some observers have reported alarming ocular symptoms from the Calmette test. These have yet to occur in our series. The extent of the re-action is no index of the severity of the lesion. Whether there is any relationship between the severity of the re-action and the probable prognosis is as yet a debatable topic. The tuberculin tests are apparently of as much value in the diagnosis of tuberculous conditions as is the Widal test in the determination of typhoid.

THE PRINCIPLES AND TECHNIC OF THE SERUM DIAGNOSIS OF SYPHILIS.¹

BY

G. HOWARD FOX, M. D.,

New York City.

In order to understand the Wasserman reaction it is necessary first to thoroughly understand hemolysis and the principle of Bordet-Gengou known as the fixation of the complement. Hemolysis refers to the power that the serum of one species of animal possesses to dissolve the corpuscles of a foreign species. For instance—if we place the normal fresh serum of a rabbit in a test tube, add sheep's corpuscles and place the tube at body temperature, it will be seen that the corpuscles will be slightly dissolved by the rabbit's serum. If, however, we treat this rabbit by a number of injections of sheep's corpuscles and then withdraw the serum and put it in a test tube and add sheep's corpuscles, we will now find that the sheep's corpuscles dissolve almost immediately. This newly acquired power of the rabbit serum is due to the formation of a substance that we have artificially produced, and which we call hemolytic amboceptor. The solution of the corpuscles depends however not alone upon this substance (amboceptor), but also upon a substance called complement which is present in every normal fresh serum. The three substances, corpuscles, hemolytic amboceptor, complement, constitute what is known as a hemolytic system, and in order to have hemolysis it is necessary that all three of these substances be present. The hemolytic amboceptor is not destroyed by heating to 56° for one-half hour—in other words, it is said to be thermo-stabile. The complement, on the other hand, is

destroyed by heating at the same temperature and for the same time and is said to be thermo-labile.

It is necessary before proceeding further to explain the terms antigen and antibody. An antigen is in general any substance such as bacteria, body cells, corpuscles, etc., which, when introduced into an animal, is followed by the production of antibodies.

Closely analogous to the hemolytic system is one which may be known as the bacteriolytic system, consisting of a bacterium corresponding to the corpuscles in the hemolytic system, a bacteriolytic amboceptor or antibody corresponding to the hemolytic amboceptor, and complement, the same in both systems.

The Bordet-Gengou phenomenon utilizes a hemolytic system to act as an indicator to show the presence of antibodies in a bacteriolytic system. The practical performance of the reaction is as follows: Previous to beginning the test the patient's serum to be tested is inactivated—that is the complement is destroyed. We will now take as antigen for instance an emulsion of typhoid bacillus, the serum of a typhoid patient (antibody), complement, preferably guinea pig serum. We place these three substances in a tube and incubate them for a half hour at body temperature. We then add two parts of a hemolytic system—namely, hemolytic amboceptor and sheep's corpuscles. If now these specific antibodies had been present there must have been a union between the first three substances and the complement must have been used up or fixed, none remaining for the second part of the test to complete hemolysis. No hemolysis resulting in this case indicates a positive test—that is, the antibodies for which we tested are present—the patient had typhoid fever.

¹ Read before the Eastern Medical Society, February 12, 1909.

In place of the emulsion of typhoid bacilli Wasserman substituted an extract from the liver of a syphilitic fetus, a portion of the body known to contain the spirochetæ in large numbers; he then simply used the serum of the syphilitic patient for that of the typhoid patient and performed the test as described above in the case of typhoid fever.

It was later found that the active principle could be extracted from the syphilitic liver by alcohol, showing it to be a lipoid and not an albuminoid substance. Numerous lipoid substances were then used as "antigen" with more or less success, even vaseline having been used for this purpose. This showed that the Wasserman reaction was not a true antigen-antibody union. It has not, however, affected the great practical value of the test.

The five different substances used in the performance of the Wasserman test and the method in which they are prepared, are: (1) extract of syphilitic liver or lecithin; (2) the patient's serum; (3) guinea pig serum; (4) rabbit's serum treated with sheep's corpuscles; (5) sheep's corpuscles.

In the modification of the Wasserman reaction recently perfected by Dr. Noguchi human corpuscles are used as the indicator, and an amboceptor for human corpuscles instead of sheep's corpuscles is used. No inactivation of the patient's serum is necessary as the complement already present is not a disturbing factor, not being active in the amount in which it is present against the human corpuscles. Noguchi has succeeded in concentrating the antigen, the amboceptor and even the complement in small strips of paper, a tiny square of this paper representing measured amounts of the impregnated substance is used for the

test. Noguchi has even found it possible to dispense with a thermostat, placing the little tubes in the vest pocket and allowing them to be incubated by the body heat.

Noguchi's test is not only free from theoretical objections which can be brought against the Wasserman test, but it seems even more delicate than the latter. The steps in practicing Noguchi's test are as follows: (1) One drop of the patient's serum from a capillary pipette. (2) One square of paper representing complement, or 0.04 of a c. c. of fresh guinea pig's serum if preferred. (3) Suspension of normal human corpuscles in the proportion of 1 drop to 4 c. c. of normal salt solution. (4) One square of paper representing the antigen. The tubes are then shaken and incubated for one-half hour at 37° C. (5) One square of paper representing hemolytic amboceptor, after which the tubes are again shaken and incubated for two hours.

DISCUSSION.

Dr. Morris Stark said that he wished to congratulate Dr. Fox upon the clear exposition of the principles of the Wasserman test with its Noguchi modification, the test-paper method being so simple that anyone could do it in his office provided he could procure active and properly prepared test-papers, Dr. Noguchi having been very kind in furnishing the papers within reasonable limits to those who were interested in trying the test themselves.

He thought there was an important point of inaccuracy in the Wasserman original test because in human serum, Noguchi showed that there is a varying amount of natural anti-sheep amboceptor capable of being reactivated by guinea pig's complement, and that in 1/10 c. c., the amount usually employed in a test for complement fixation, as many as 20 units of anti-sheep amboceptor may be present. Other specimens have none.

Furthermore, Noguchi found that 4 units of the natural anti-sheep amboceptor entirely prevent the detection of one unit of syphilitic antibody. Now when one bears in mind that very often in hereditary cases or in cases which have been under active treatment there may be no more than perhaps 2 units of syphilitic antibody in the sample under test, should there by chance be 8 or 10 units of natural anti-sheep hemolytic amboceptor also present in the serum under examination, the test would be entirely negative and so, worth-

less as a diagnostic point in that particular case.

So it is seen that the Wasserman test as originally described may miss the presence of the syphilis antibody entirely if much anti-sheep amboceptor is naturally present in the specimen, and unless one goes through lengthy tests one cannot say how much natural anti-sheep amboceptor is present in any one specimen.

Noguchi also showed by actual experiment that by not destroying the human complement of the specimen as it is done in the Wasserman test, one does not interfere with the accuracy of the Noguchi method, since the largest amount of human complement that could possibly be present in the quantity of the specimen used is absolutely indifferent to human corpuscles, and, in fact, if large quantities of human serum were used the human complement present would be almost entirely indifferent to human corpuscles.

Dr. Stark said that in his work in the Out-patient Department of the Babies Hospital he used specially constructed syphonizing capillary tubes with bulbs. The patient's finger was pricked and with little difficulty one could get the little bulb half full of blood. Then both ends of the tube were sealed.

Dr. Kaplan said that as he had worked with Dr. Noguchi with his modification, he was happy to say that his (Dr. Noguchi's) method was by far superior to the old Wasserman test. Dr. Noguchi's changes were as follows: The ordinary Wasserman test did not take into consideration the few deviations which Dr. Stark had mentioned—in other words it did not take into consideration the sheep's amboceptor naturally present in some human sera. By testing a positive or syphilitic serum with Wasserman's method he had obtained in a few cases a complete hemolysis, while at the same time the Noguchi test showed complete inhibition of hemolysis, the reason why the Noguchi modification brought out syphilitic condition so plainly whereas the Wasserman gave negative results. Noguchi's explanation is that the hemolytic amboceptor present in excess is left there to act on the sheep's corpuscles. Dr. Kaplan said that in the presence of a surplus of amboceptor there was always enough complement left, but it had been learned from an old Morgenroth & Ehrlich experiment that the greater the amount of amboceptor the smaller was the amount of complement needed, and if there be one unit of amboceptor, one unit of complement will be sufficient to complete the reaction. For 10 units of amboceptor $1/32$ of a unit of complement suffices to bring about hemolysis, and that is why in some cases where the least quantity of complement is available or in excess, in the presence of surplus of natural anti-sheep amboceptor, that the Wasserman test fails. This did not take place in the Noguchi reaction because there was no sheep's amboceptor used in his modification. Noguchi uses human cells and only one drop of the patient's serum, obtaining a sufficient quantity of blood by pricking the ear or finger.

Dr. Kaplan said he would like to ask Dr. Fox an explanation of the third portion of his chart.

Dr. Kaplan said he had tested his cells beforehand to see whether they contained serum or not. He used the old familiar opsonic test. If the cells were not perfectly washed, they were washed again, sometimes as many as three or four times in order to get rid of all the serum. One should not forget that hemolysis can take place without complement or hemolytic amboceptor, i. e., through purely physical means. No matter how often one performs the test one is not to leave out the controls. Dr. Kaplan found that one hour or less was enough to produce complete hemolysis in the controls, and as soon as it was produced in the controls he took the tubes out. A unit of amboceptor is the smallest amount that will completely hemolyze in 15 or 30 minutes 1 c. c. of a 5% suspension of corpuscles.

Dr. Fox, in closing the discussion, said that the presence of natural amboceptor for sheep's corpuscles in the human blood, as Dr. Stark had mentioned, was according to Noguchi, the disturbing factor in the Wasserman reaction. It is, however, upon the presence of this substance that the modification of Bauer is based. He omits the hemolytic amboceptor in his test, depending upon that already present in the patient's serum. By this simplification he uses only four instead of the five customary substances. This test is theoretically objectionable, owing to the fact that the amboceptor is an unknown and variable quantity. Practically, however, Behring has lately obtained excellent results on the use of this test. In a series of 123 cases examined simultaneously with the regular Wasserman test, the results are absolutely identical with the exception of one case. This case, which was one of undoubted syphilis, gave a negative reaction with the Wasserman and a positive with the Bauer test.

With regard to the circles in the chart about which Dr. Stark asked, Dr. Fox said that owing to the shortness of time he had omitted to explain that they represented the necessary controls used for the test.

Dr. Fox asked Dr. Kaplan whether he referred to the Wasserman or the Noguchi test when he said that his controls required one hour to one-half hour to become hemolyzed.

Dr. Stark answered that he referred to the regular Wasserman test.

Dr. Fox then responded that in his experience the controls in the regular Wasserman reaction seldom required more than one-half hour to show complete hemolysis.

The night nurse, who expects to go promptly to sleep in the morning, should not indulge in either tea or coffee at breakfast, and should arrange to take her outdoor exercise after sleeping hours rather than before.—*Trained Nurse and Hospital Review.*

CONGENITAL PYLORIC OBSTRUCTION IN AN INFANT.

BY

M. O. MAGID, M. D.,
New York City.

I wish to report a case of a malady in infants which is sometimes overlooked by the general practitioner. I refer to a congenital pyloric obstruction.

"When an infant has a history of vomiting continued for a period of time, with a loss of weight instead of a gain, one should think of the possibility of obstruction of the pyloric end of the stomach. The first thing necessary before coming to this conclusion, is to correct all errors in feeding, in breast-fed as well as in bottle-fed infants. The infant should be weighed regularly to note whether it is gaining or losing in weight. As a rule, in spite of all efforts at proper feeding, the child loses in weight, owing to the continued vomiting. The mother or nurse will inform you that the child often vomits more than the amount of food last taken, showing that food had been retained in the stomach from previous feedings.

My case, B. Z., was a male three months old, normal birth, weighing 8 pounds, and breast-fed. The child contracted a cough when a few days old, which continued as long as the child lived, causing an inguinal hernia on one side. This necessitated it wearing a truss. The child vomited from about the fourth or fifth day after birth several times each day. The mother attributed this to the fact that she was told her milk was not of the proper strength and because she nursed it irregularly. When the child was eight weeks old, the mother noticed that it did not gain any weight. She consulted her physician who instructed her to nurse the baby regularly and in addition, put it on a mixture of cream and barley water, with the idea that the breast milk was not of good quality and not sufficient in amount to nourish the baby. The infant continued to

vomit and lose in weight. When I was called in to see the case, the child, then 10½ weeks old, had a subnormal temperature, pulse hardly perceptible and presented the appearance of a baby that was ready to breathe its last. I noticed the abdomen very much distended, the thighs and legs markedly edematous and the baby coughing and crying almost continually. I ordered some calomel, stimulation, etc., and the next day, the child was much relieved. I examined the child closely for some time and noticed the epigastric area suddenly bulge out as though it became distended with gas; this condition lasted about a minute and the child screamed during the time as though in severe pain. On one occasion, the child vomited some fluid. I ordered milk for the baby to be prepared by the Walker-Gordon Laboratory. This milk was very low in fat and proteid for a baby of this age. The child seemed to take to this food and retained several ounces during the first twelve ounces, but during the night, it suddenly vomited so much milk, that the entire pillow on which the child lay and the clothes it wore became all wet. The mother described this, "It ran from the baby's mouth as from a faucet." After two days' trial of this milk and seeing that the baby could not retain the food, I consulted Dr. Louis Fischer, who, while examining the baby, also noticed the sudden peristaltic wave in the epigastric region. He corroborated my diagnosis. The result of all efforts to feed this baby was the same. The child could not retain any food. The stools of the baby were at no time very large. Most times the napkin was stained over an area about the size of a silver dollar. They were greenish in color, containing small particles of undigested food. The region over the pylorus was palpated and no tumor could be felt. The child died from inanition, when it was three months old.

DISCUSSION.

Dr. Louis Fischer said he had had the pleasure of seeing the case Dr. Magid had mentioned with him some time ago. He thought that cases of pyloric obstruction were not as rare as they had been reported to be, as he had seen no less than three in the past month. He had seen one child about two weeks before which had been sent to him by Dr. Wilson as a feeding case. On getting the history he found

that the child had been vomiting for weeks. The food had been changed half a dozen times, and after having had three or four physicians it had been sent to a pediatricist. He had requested that a colleague be called in, as sometimes the question of operation comes up. The family had suggested Dr. Koplik, who had made a diagnosis of pyloric spasm. Dr. Fischer laid a great deal of stress on the fact that the child had passed some stool. There are a great many cases of spasm where it is very important to operate early. In a case seen last year a diagnosis of pyloric spasm had been made; a little mass could be felt. Dr. Sturmdorf had operated and a large mass had been removed in which it had been absolutely impossible to pass even a small probe. It was a case of distinct pyloric stenosis. Dr. Fischer thought that in the case Dr. Magid had reported, the symptoms were so simple that every man should be able to recognize them.

He had seen another case six weeks before in which there was a history of vomiting, sometimes immediately after feeding, while at other times the vomiting would come on an hour after feeding. Sometimes the baby would vomit 4 ounces, whereas but 2 ounces had been fed at the previous meal. In a child who passed some stools he disregarded the ballooning of the stomach and even the stationary weight. He had seen such cases do well for 3, 4, 5 or 6 months—that is, these children had held their own weight of 6 pounds and not gone above it after several months. They will get enough nutrition to sustain life.

He thought that when the child began to emaciate, when a mass could be felt at the region of the pylorus and there was a history of no stools, it should be turned over to the surgeon immediately. The question of shock in very young babies is a very important one to consider. The majority of cases of pyloric spasm seen should be differentiated from pyloric stenosis.

Dr. Wiener said he could not agree with Dr. Fischer in his statement that if surgeons saw all cases they would operate most of them. It is safest to have a diagnosis made by the family physician and to have a differential diagnosis between pyloric spasm and pyloric stenosis made. He agreed with Dr. Fischer that the disease was not so rare; he had seen three or four in the last five years. He had been struck by the fact of the uncertainty of the diagnosis. The mortality is 80 or 85%. He thought the cases were not gotten early enough, but that the disease was getting to be better known and recognized earlier. He thought Dr. Fischer would agree with him that true congenital pyloric stenosis was a surgical case. The results had been bad because they had been cases in the first six weeks of life, and no infant six weeks old is a good subject for laparotomy. He took rather a hopeful view of the future of these cases.

Dr. Gordon said he wished to mention a case of the same nature he had seen four months before. The child had shown distinct symptoms of pyloric spasm—not obstruction. He

thought it of great importance for the physician to try immediately to make a differential diagnosis. The quicker the child is on the operating table the better, no matter how young it is. It cannot improve without operation. It is unwise to operate on a child where there is only spasm. He had had a case which he had diagnosed as spasm because the child had tolerated food originally, and having been overfed, some distention of the stomach caused spasm, after which the child could not tolerate food longer than an hour before vomiting. On consultation with Dr. Jacoby, he had advised to find out whether any nutrition was going on by weighing the child to find out how much food was retained in the stomach after nursing, and as this could not be successfully done in the home of the patient it had been referred to Dr. Koplik, who had taken the child to the hospital and watched its feeding carefully. It is important to feed the child frequently and in small quantities; after a certain period, measure the quantity and if the food does good it can be continued at that rate for some time, afterwards making longer intervals and larger quantities. He said the child was now strong and robust, doing as well as though it never had had stenosis. It had only weighed $4\frac{1}{4}$ pounds when sent to the hospital.

Dr. Bassler said he could not agree with Dr. Gordon entirely that every case of congenital stenosis of anatomical type should be operated because he had performed two operations on adults where a congenital stenosis had existed all their lives. The first was a man over 40 years of age, the second a young woman. Both of these cases had had more or less digestive history. He thought that the points in the differential diagnosis between congenital stenosis and spasm should be brought out because of the importance of the subject and the fact that it has awakened such world-wide interest. These babies are all born healthy, and after a time begin their vomiting. He thought the history of vomiting coming on a few days after birth very likely to be due to congenital stenosis, whereas on the other hand, a child which had been apparently well for some weeks and then began a history of vomiting was probably a case of spasm. The babies who die when operated on do not seem able to withstand shock. They are like tender plants; one never knows how they are going to come out. Dr. Bassler thought that unless one could feel something in the epigastrium which could convey to his mind that there was a mass, due either to thickening of the mucous membrane or actual narrowing of the exit of the stomach itself, he would depend on figuring absolutely from the analogy that where he got uplift of the stomach or distinct evidences of peristalsis that he was dealing with an organic condition, and one for the surgeon; still he felt that feeding should be tried first. He thought the cases of spasm were no doubt due to some chemical irritation or mechanical irritation affecting the pyloric region and the pylorus itself,

and even in organic stenosis a child may be tidied over until such time as surgical interference would probably be a safe procedure.

Dr. Fischer said there was one other important point which he thought should be brought out in conjunction with pyloric spasm or stenosis. An important symptom is vomiting, which is sometimes provoked by the irritation of feeding itself. One child had been fed on milk containing 5% fat. When this was stopped, the vomiting stopped. The symptoms had been provoked by high fat. He thought it important to regulate the quantity of fats and proteids, and perhaps to use lavage.

Dr. Magid said in closing the discussion that he wanted to emphasize the point that the child had vomited from the day of birth, and the excuse had been given that it was not nursing properly.

PRIMARY TUBERCULOSIS OF THE CONJUNCTIVA.

BY
ERWIN TOROK, M. D.,
New York City.

I take pleasure in presenting to you a patient whose eye-disease, being a primary tuberculosis of the conjunctiva, I think will interest not only the eye specialists but also the general practitioners.

The patient was brought to the dispensary of the N. Y. Ophthalmic and Aural Hospital three weeks ago. The short history is as follows: Male child, 2 years old, has always been in good health. Mother first observed swelling in the praeauricular region 5 months ago, at the same time noticed swelling of the upper lid with muco-purulent secretion. The glandular and eye condition gradually became worse. Parents of child still living, mother in good health, gives no history of miscarriages and no tubercular history. Father suffering at present from tuberculosis. One child, younger than the patient, still alive and in good health. *Status praesens*: The upper lid swollen and depressed; conjunctiva of upper lid thickened, hypertrophic, studded with yellowish-red granules; conjunctiva of lower lid is only injected, blood-vessels impossible to be seen; bulbar conjunctiva not involved. Cornea and deeper struc-

tures normal. Pre-auricular gland enlarged, easily movable beneath the skin; this gland presents fluctuation.

The appearance of the conjunctiva together with the positive family history and the symptoms gave us the right to make the diagnosis of tuberculosis of the conjunctiva, but to make it sure, on Feb. 3rd we cut off a small piece of the hypertrophic conjunctiva. One part of it has been inoculated into the anterior chamber of a guinea pig, the other was submitted to pathological examination, which showed typical tuberculous tissue. The guinea pig is well so far, as we can not expect the development of tuberculous iritis inside of four to five weeks.

Tuberculosis of the conjunctiva, like tuberculous affections in general, is a disease of childhood and of early life. It occurs most frequently in the first and second decade, and very rarely after the 50th year. It is a rare disease; Hirschberg found 3 among 17,000, Machek 3 among 40,000, and Terson 2 among 30,000 eye patients. Here I wish to state that all these data are of no great significance, because with the advance of knowledge of tuberculosis as an etiological factor in eye diseases, the number of cases found increase from day to day.

The infection may be primary or secondary, in the first case the infection occurs from outside through a break in the epithelium of the conjunctiva, in the second the germs are carried there by the lymph and blood circulation from a focus situated elsewhere in the body.

The clinical picture of tuberculosis of the conjunctiva is so variable that it is difficult to describe the typical case. Satsler was the one who classified the various clinical forms and today his grouping is accepted

by most authors. It is as follows: *First form* is localized on the tarsal conjunctiva, where there are ulcers of considerable size and depth with sharply defined edges. The pre-auricular gland is enlarged. *Second form*: in these cases small follicles of about the size of flax seeds, grayish or grayish-yellow in color are found chiefly in the retrotarsal and semilunar folds. Later they spread on the cornea in the form of a thin pannus. The pre-auricular gland is not always enlarged. *Third form*: in these cases the eye-lids become thick, there is a muco-purulent discharge and the tarsal conjunctiva is covered with bright red, exuberant granulations. The pre-auricular gland is generally enlarged. *The fourth form* is the lupus of the conjunctiva generally in connection with lupus of the skin or nose.

We rarely find cases which fit altogether into one of these groups. They occur usually as a mixed type. The most important is the second group, which sometimes resembles trachoma so much, that it is impossible to make a differential diagnosis clinically.

Prognosis in primary cases may be said to be generally good, since in not far advanced cases with proper treatment a perfect cure can be had. Of course the danger of the development of a metastasis or the generalization of the tuberculosis is always present. The only treatment consists in the use of tuberculin injections.

DISCUSSION.

Dr. Cohen said he thought **Dr. Torok** ought to be congratulated on the very important topic presented. He himself had seen but one case of primary tuberculosis of the conjunctiva; this case was associated with tuberculosis of both lungs. Associated with this was periauricular glandular involvement. It is important to know the etiological factors in these cases. The expectoration from tuber-

culous parents sometimes enters the eyes of children. In regard to the treatment one sees cases which ought to be treated radically by removing the conjunctiva, or else treating by X-ray or tuberculin. **Dr. Cohen** had had no experience in these cases. He thought the case mentioned by **Dr. Torok** might have been treated with X-ray.

Dr. Freudenthal said this was the second case he had seen. Why was it that there were so very few cases of primary tuberculosis? If the doctrine were true that the sputum when dried and thrown against the body produced tuberculosis, why was it that the membranes were not affected more often? He would like, he said, to have this question answered.

Dr. Torok said that infection could occur only when there was a break in the continuity of the conjunctiva. Inoculation occurs through rubbing the eye, and the reason that the right eye is usually affected is because a child usually rubs the right eye instead of the left.

An eminent German physician has stated that more typhoid fever has been carried about in the leaves of lettuce, radishes, cress, tomatoes, cabbage—used for cold slaw—and similar raw vegetables, than in any other way except by drinking water. He modifies the statement by saying that the danger is that polluted water is used for cleansing the raw vegetable, while great pains is taken to boil suspected water used for drinking purposes. Occasionally infection has been traced to the fertilizing material applied to the soil in which vegetables have grown, and all such vegetables are exposed to infection from the dust and dirt of the street. Cooking vegetables will destroy all such germs. Housewives should be warned of this danger, where there is reason to suspect that a water supply is unsafe.—*Trained Nurse and Hospital Review*.

To get the tonic effects, STRYCHNINE IS BEST GIVEN in small doses three times daily. Given in this way it will increase the volume and the digestive power of the gastric juice, and also gastrointestinal peristalsis. It is, therefore, of value in overcoming the constipation met with in gynæcological patients, due to lack of tone in the muscles of the intestinal wall. The irregular action of the heart and cardiac palpitation, if they are functional disturbances accompanying hysteria, especially about the time of the menopause, are frequently benefited by strychnine.—*Boldt*.

ETIOLOGY AND DIAGNOSIS.

Acute Miliary Tuberculosis.¹—According to von Ruck the following points are of principal diagnostic importance:

(1) The rapid emaciation which is a striking feature in almost every case, and which is out of all proportion to the degree of fever, the state of the digestive organs, and the amount of food taken. (2) The bronchiolitis of acute miliary tuberculosis of the lung is characteristic in that the catarrhal signs appear first in the smaller and then extend to the larger bronchi, instead of in the reverse order as in ordinary bronchitis. In further contrast to ordinary bronchiolitis the lower posterior portions of the lung in acute miliary tuberculosis are often less involved than the upper. (3) Cases in which typhoid fever is minutely simulated by acute miliary tuberculosis or in which the two diseases coexist are rare, and a careful study of the pulse, temperature, and respiration will usually lead to a correct distinction. (4) Serum reactions are reliable when present in well marked degree, but tuberculous patients may show a modified Widal reaction and the Arloing-Courmont reaction is not always present in tuberculosis. (5) The ocular test as applied by Calmette and the cutaneous application of Pirquet, while not yet established as thoroughly reliable, are safe; and one or both should be employed in all doubtful cases, especially if the subcutaneous injection of tuberculin is contra-indicated. (6) Bacteriological examinations of the blood, feces, and secretions may be of great aid in doubtful cases. (7) The appearance of choroid tubercle or miliary tubercle of visible mucous membranes in the course of the disease removes all doubt.

Diagnosis of Lesions of the Stomach.²—

Hypersecretion forms a striking clinical picture. The diagnostic feature of the condition is the vomiting of large quantities of acid gastric juice, greenish blue in colour and containing an excessive amount of acid. It can be diagnosed by finding a large amount of fluid in the stomach in the early morning, usually in spite of the fact that large amounts have been vomited dur-

ing the night. There is an acute or intermittent form, usually diagnosed as a bilious attack and associated with headache. Another form is the continuous one, Reichmann's disease. Before diagnosing this disease it is necessary to exclude two conditions in which continuous hypersecretion occurs as a secondary disturbance. They are (1) ulcer and (2) dilatation from benign stenosis.

Hyperchlorhydria is a more common condition. The chief features are the character of the pain (heartburn) which comes on at the height of digestion and is relieved by taking more food. The diagnosis of the condition is clinched by testing the contents after a test breakfast. As it may be an accompaniment of ulcer or dilatation these conditions must be excluded before letting the diagnosis of hyperchlorhydria stand alone.

Acute gastritis has chiefly to be separated from abdominal catastrophes requiring surgical treatment. Its features are well known, and giving a test meal would be the refinement of cruelty.

Chronic gastritis.—The diagnostic feature of gastritis is the finding of mucus in the wash water after early morning lavage. These flakes of mucus sink to the bottom. The balls of mucus floating about on the top are either saliva or sputum which has been swallowed. After a test meal we find the food badly digested, intimately mixed with mucus which interferes with filtration. There is nearly always a diminution in the free acid and often complete absence of free HCl. The total acidity value is diminished. Even when the acidity is much diminished we do not find lactic acid, because the motor powers are normal. The variety known as acid gastritis where there are raised values for acid is very rare, and the values are never very high. It is diagnosed by the presence of mucus. Atrophic gastritis cannot in many cases be diagnosed from the next disease.

Achylia gastrica.—In this condition (which may be found accidentally) there may be very few subjective symptoms. There is practically no acid (combined) in the contents after a meal (under 12). There is no pepsin or rennet. The condition may be secondary to a chronic gastritis or be apparently a neurosis or a permanent condition. There may be no gas-

¹ S. von Ruck, M. D., N. Y. Med. Jour., Dec. 26, 1908.

² Dr. Barnes, London Lancet, Feb. 20, 1909.

tric symptoms. This is due to the fact that the stomach may be able to force on the food into the intestines which can do the work of both organs. This compensation can break down in two ways: (1) the motor powers may fail, or (2) a chronic enteritis may be set up. This has for its chief features a chronic obstinate diarrhoea, with mucus and much undigested food in the fæces, and usually marked indicanuria. In such cases of enteritis the stomach should be carefully examined as to its secretory powers.

Malpositions of the stomach must be demonstrated by inflation, care being taken not to mistake gastropotosis for gastrectasis. The upper border of the stomach must be defined.

Every case in which *motor insufficiency* is suspected should be tested with the stomach tube. This not only prevents gastropotosis and gastromegaly from being confused with gastrectasis, but also supplies data for the diagnosis of the cause. The tube should be passed the first thing in the morning and again seven hours after a test meal. The acidity should also be tested. The degree of insufficiency can be determined by the quantity of residue found. The varieties of motor insufficiency with their characteristic phenomena may be classed as follows. A. Relative insufficiency where the muscularis though hypertrophied is unable to force the contents through an obstruction of the pylorus. The diagnostic features are: (1) excessive peristalsis after a meal, and (2) tumour at the pylorus. The congenital pyloric obstruction of infants is of this nature. In adults we meet with two causes: 1. Benign stenosis, scars, bands, kinking, &c. These are mostly accompanied by hypersecretion with excess of free acid and of total acidity, yeasty fermentation; the residue after a test meal consists of carbohydrates (starch). 2. Malignant disease where there is usually absence of free HCl, diminished total acidity, lactic acid fermentation with the Oppler-Boas bacilli. There are also seen pieces of undigested meat. B. Primary motor insufficiency, due to disease of muscularis, functional loss of motor power due to overloading, nervous causes, operation shock, &c., is rare. The acidity will vary with the cause of the condition. Copious vomiting after an

operation is a suggestive sign of acute dilatation.

The diagnosis of *ulcer* has now gained great importance owing to the increasing frequency of surgical interference. The history is of the greatest importance, noteworthy points being the acute character of the pain—localised in one spot in the epigastrium and accompanied by local superficial tenderness, coming on from a half to one hour after meals, relieved by vomiting. The vomiting is usually small in quantity. Hæmatemesis if present with these symptoms clinches the diagnosis. No one can doubt Dr. Hale White's conclusion about "gastrorrhaxis" when one sees occasional cases of severe hæmatemesis come into hospital and rapidly recover without any other symptom of ulcer. A test breakfast should not be given until 14 days after hæmatemesis. Hyperacidity is found in many cases of ulcer, but numerous cases have been recorded where there was diminished acidity.

TREATMENT.

The Treatment of Erysipelas.¹—Judd describes his treatment of erysipelas as follows: The technique consists of painting with a swab of cotton the entire surface of the involved area, and extending about a half inch into the surrounding apparently healthy skin, with a 9 per cent carbolic solution. This is left until the purplish color of the inflamed area is replaced by a pretty complete whitening of the skin. It is essential to the success of the procedure that we await this whitening before we proceed to the next step in the operation. On the other hand, if we allow the whitening to proceed to a thorough blanching, we shall produce a burn and a slough of the skin, which will prove painful to our patient and add nothing to the efficacy. Where we have large areas involved, it is advisable that only a portion be painted at a time. The second step consists in going over the whitened area very thoroughly with a second swab saturated with pure alcohol. If this swabbing is done thoroughly the whitened area becomes once more pink, and the alcohol must be laid on until

¹ Aspinwall Judd, M. D., Medical Record, Feb. 13, 1909.

this is accomplished. After this we proceed with other areas with the carbolic, neutralizing with alcohol, until our operation is complete. It is essential that we should include a half inch of the apparently sound skin, as the bacteria of erysipelas are found beyond the apparently involved area. In some of our first cases treated we neglected this precaution, and found in twenty-four hours that, while we had completely controlled the initially inflamed area, a ring of newly inflamed tissue extended out in all directions beyond, much as an advancing ringworm extends. Our method includes the painting of the hairy scalp, the eyelids, the mucous membrane of the alæ of the nose, and the nipple of the breast, if necessary. We have failed to note any evil result from its use. There has been no toxic action of the carbolic in any case so far observed, although the urine is sometimes darkened and of characteristic odor. The temperature rapidly falls, and, in severe cases, it is frequently necessary to support the patient with stimulation of strychnine and whisky.

The Treatment of Post-Operative Tympanites.¹—Goth calls attention to the dangers of post-operative ileus and reports three cases apparently due to paralysis of the bowels. The symptoms indicated a septic affection except that the tongue was uncoated. Vigorous peristalsis was induced by physostigmin salicylate, injected in the dose of 0.001 gm. (1-64 grain), this dose being repeated in forty-five minutes. Flatus passed in twenty minutes after the last dose. A third injection was given in one case, and in the third a single dose of 0.002 gm. (1-32 grain) accomplished the purpose in less than half an hour. He states that in two of these cases the omentum was too short to cover over the intestine as desired, and he thinks that this lack of an omental support for the intestines may have led to the post-operative paralysis.

The Treatment of Hemorrhoids.²—Hull describes the following operative technic: After dilating the sphincter, grasp

¹ L. Goth, M. D., *Zentrablatt für Gynäkologie*, Leipzig, Dec. 19, 1908.

² H. F. Hull, M. D., *U. S. Medical Naval Bulletin*, Washington, Jan., 1909.

the pile well toward its base with a hemostat, the blades parallel with the long axis of the bowel. It may be necessary to draw out the pile with a tenaculum. Take a strand of No. 2 catgut, 8 or 10 inches long and thread on each end of it a full curved or half curved needle. Start to sew at the upper end of the pile—that is, at the distal end of the clamp, entering one of the needles close to and just beneath the hemostat, about one-eighth of an inch from the extremity of the pile. Draw the thread half through. Bring the thread around the free end of the pile and re-enter the same needle through the same hole and from the original side. Thus a loop will be formed about this end. Follow down along the pile, keeping close to and beneath the hemostat with an ordinary shoemaker's or harnessmaker's stitch, with two needles, making the loops or stitches about one-eighth of an inch apart. This stitch is put in by entering the needles from opposite sides through the same hole and then pulling fairly tight. The last stitch or loop ends one-eighth inch from the proximal end of the clamp, and the two ends are simply pulled tight and tied about this end of the pile. Cut the pile off close to the upper surface of the hemostat, and lastly cut the long end of the threads. Repeat this procedure for each pile. Should any be very large, angry looking, and "bursting" with blood, a back stitch may be taken at about the center of the pile, first pulling tight those stitches already in. A cautery may be used on the raw edge. The after-treatment consists of a suppository of opium and belladonna, a rectal plug of gauze, and rubber dam wrapped about a piece of tubing and left in for two or three days. As soon as the plug is removed an oil enema is given.

Treatment of Trachoma.¹—While the essential treatment of trachoma consists in extraction of all of the granules with Prince's forceps or otherwise, there is much else to be done to effect a cure. For the second stage the application of a weak solution of nitrate of silver does better, perhaps, than anything else, especially when the patient complains of pain, burning and itching. Use two grains to the ounce of

¹ E. Lanphear, M. D., *Am. Jour. of Clin. Med.*, March, 1909.

distilled water. The conjunctival sac is first to be irrigated with bichloride of mercury solution, 1 in 1000, or formalin of the same strength, for two or three minutes; then the silver solution is dropped in, the patient lying upon his back and remaining so for several minutes. This procedure is to be repeated four times daily until a cure is effected. In a few cases cauterizing with sulphate of copper will be necessary in the late stages, if granulation is excessive.

Epistaxis.—Before resorting to a plugging of the nares to check nosebleed it is best to apply a small ball of cotton saturated with peroxide of hydrogen, or with a 10 per cent solution of antipyrin. If at hand, a solution of adrenalin chloride may be likewise tried, generally with success.—*Lanphear.*

Injuries that may be Produced by the X-Ray.¹—Gocht, after an extensive consideration of the injuries which may be produced, how they are to be treated, and how avoided, draws the following conclusions. 1. The x rays should be used for diagnostic or therapeutic purposes only under responsible medical supervision. 2. The physician who works with the x rays must know the prophylactic precautions corresponding to the present condition of this special science, he must carefully study the question of dosage and always observe the necessary precautions in every direction. 3. The physician should tell his patients that in spite of all care occasional overdosing may happen, particularly when he must obtain a certain reaction of the first or second degree. 4. It is necessary for him to ask the patient before examination or treatment with the x ray whether he has ever been exposed to the x ray; if so, when and how often, and whether his skin is particularly sensitive. 5. As occasionally grave charges have been brought against a physician when he has left the room during the treatment he must expressly state that no particular harm could be caused. The apparatus and tubes used to-day for brief exposures are sufficiently uniform. 6. In legal trials which involve claimed or real injuries from the x rays it is strongly to be recommended that the

opinions of physicians who are recognized experts in x ray work be obtained. At any rate the experts called must be thoroughly acquainted with the action of the x rays and with their biological properties, if possible from their own experience. 7. Finally, it should be particularly borne in mind that in the present state of x ray technique injuries to patients from the x rays are and will continue to be rare. Those who have suffered most severely are not the patients, but those who have had most to do in building up the science of the x rays, electrical engineers, physicians, and their assistants.

DIETETICS AND HYGIENE.

The Protein Dietary in Tuberculosis.¹—

The main facts presented by Kellogg may be briefly summarized as follows:

1. A low protein dietary, .80 to 1.00 gram of albumin per kilogram of body weight per diem, is entirely consistent with health, vigor, and a high degree of efficiency and endurance in health.

2. While a patient suffering from pulmonary tuberculosis doubtless requires a small increase in the intake of nitrogen, an excessive increase involves grave dangers to the patient, both (a) by decreasing his general vital resistance, and (b) by imposing unnecessary and dangerous burdens upon the liver, kidneys, thyroid, and other organs which are already overburdened and often seriously crippled in this disease.

3. There is no evidence that a larger proportion of consumptives recover under a high protein diet than under a protein ration sufficiently above the Chittenden standard to replace the nitrogen loss due to febrile conditions in certain states of the disease.

4. The majority of consumptives die from disease of the liver and kidneys. The toxins peculiar to this malady and to the process of immunization against tuberculous disease, while tending to cure the latter, tend at the same time to produce disease of the kidneys, and to such a degree that patients not infrequently die of renal disease after having apparently recovered from tuberculous disease.

¹ A. Gocht, M. D., *Munchener Med. Woch.* Jan. 5, 1909.

¹ J. H. Kellogg, M. D., *Med. Record*, Feb. 13, 1909.

5. In consumption the organism is required to deal with various highly virulent poisons which overstimulate and ultimately cripple or destroy the thyroid, adrenals, liver, and other antitoxic organs. A high protein diet produces similar effects in healthy animals and persons, and destroys life in animals whose poison-destroying functions are seriously impaired.

6. A high protein diet is recognized as an important factor in the causation of renal disease and is universally condemned in grave affections of the liver and kidneys. Vegetable proteins are much less objectionable than flesh proteins for the reason that they are entirely free from toxins and very much less readily undergo putrefactive changes in the intestine.

It readily appears to the writer that the logical and inevitable conclusion from these facts is that a high protein dietary is not only unnecessary but injurious, and even dangerous, in the treatment of phthisis pulmonalis, and that vegetable proteins may be with advantage largely substituted for flesh proteins in the dietetic management of this malady.

GENERAL TOPICS.

The Necessity for Discrimination in the Use and Mention of Proprietary Remedies.¹—In an article of commendable liberality as well as scientific value Boldt expresses himself as follows:

In choosing remedies I wish to say that while I agree that it is not only improper, but also unprofessional, to prescribe patent medicines and proprietary medications that are advertised to the public at large, I see no valid reason why some physicians take the antagonistic attitude they do toward *all* proprietary preparations; why, when some such preparation gives satisfactory results, in fact, better results, than the "ethical" remedies, the physician, on some supposed ethical ground, should decline to mention it to his colleagues; or, why, if he does publish the results, the editors of some journals should insist on substituting the long, unpronounceable chemical names that are not known to one physician in a hundred.

Antipyrine, for instance, has on me, personally, a better effect in supraorbital neuralgia than any other remedy, but how many pharmacists or physicians know antipyrine under its chemical name of phenyldimethylpyrazolon? Again, a member of my family gets more rapid relief from phenacetine, an intimate acquaintance from pyramidon. Now, why should one not speak frankly about such drugs, using the short, simple, and well known trade names? It has happened to me a number of times that when I prescribed cotarnine hydrochloride, the pharmacist telephoned to me to inquire what it was, when under the name of stypitcin he at once recognized it.

Take protargol, the silver salt with which I have had more satisfaction than any other in some instances of chronic gonorrhœa. What valid reason is there for not using the trade name, which every physician and pharmacist understands? How many would know what was wanted if the chemical name were used for the protein silver salt. I might say in this connection that to get the best results with protargol in chronic gonorrhœa of women the solutions must be much stronger than are usually recommended. I nearly always use solutions of 33 1-3 per cent., or even to 50 per cent., to saturate the cotton or gauze, which I allow to remain in the uterocervical canal for two hours or more. I have never seen irritation caused by such strong solutions.

I realize, of course, that it is very difficult sometimes to draw the line. Yet, when we are using a remedy from a well known chemical firm with an international reputation on matters of strict ethics; when this firm has set forth all details in the description; and when, in addition, European confrères of international reputation do not hesitate to publish their experiences with such remedies, I see no valid reason why some members of the medical press should take what seems to me a narrow view.

Trade names are of comparatively recent date. Had they been in vogue about sixty years ago, Liebig would probably have put one on chloral hydrate. Indeed, chloral hydrate became practically a trade name when Liebig conferred the sole right for its manufacture on Schering & Co. It does seem, therefore, that a little more liberality in this direction would not be harmful.

¹H. J. Boldt, M. D., New York Med. Jour., Feb 20, 1909.

Many of the preparations now accepted by the profession are or were proprietary remedies, and the prescribing of them was practically forced on the profession because it was proved that for certain conditions they were more valuable than any official preparation in the pharmacopœia. I was pleased to see *The Journal of the American Medical Association*, which certainly is second to none in the world, so far as ethics are concerned, make a departure from custom when publishing the results of the experiments of Sollmann and Hatcher, and use the simple names, such as isopral (chemical name trichlorisopropylalcohol) and bromural (the chemical name for the latter being alphasubmonobromisovalerylurea) (see *Journal of the American Medical Association*, August 8, 1908). Such proprietary remedies have come to stay; they must be recognized, and it seems the duty of those members of the profession who are willing to experiment with remedies to publish the results, as Sollmann and Hatcher have done.

I hope my professional brethren will not misunderstand my true position in this matter. I express my opinion with conviction and honesty of purpose, and put my views on record because of the criticism to which I was subjected through the action of a certain firm. I had made an extensive series of scientific experiments with an antiseptic (formaldehyde in neutral soap) and published the results before a section of the American Medical Association. The manufacturers had the temerity and tactlessness to send a reprint of my paper to members of the profession, printing their business address on the cover of the pamphlet. The firm, with the members of which I had no direct or indirect acquaintance, having done this without my knowledge or sanction, made the most humble apology over their signature, after I had expressed myself in forcible language as to their action.

I believe it to be strictly ethical for any one to write an article about a remedy, if, in his honest opinion, the remedy is strictly ethical and of value, and he has had sufficient experience with it to form a valid opinion.

EASTERN MEDICAL SOCIETY OF THE CITY OF NEW YORK.

Stated Meeting March 12th, 1909, the President, Dr. Wolff Freudenthal, in the chair.

The regular monthly meeting of the Eastern Medical Society was held on March 12th, 1909, the President, Dr. Wolff Freudenthal, presiding. The following cases and case reports were presented:

1. Case of Pansinusitis, by Dr. Otto Glogau.

2. Gumma of Femur in a Child, by Dr. M. M. Stark.

Nos. 3, 4 and 5, Tertiary Syphilis of the Nose, by Dr. Martin Cohen, Calculous Pyonephrosis, by Dr. Charles Goodman, and Two Cases of Hypernephrosis of the Kidney, and Calculous Pyonephrosis, by Dr. A. E. Isaacs, were not presented, the above named doctors not being present.

A Symposium on Cystoscopy was then presented, papers being read by Dr. Arthur Stein on Cystoscopy from the Gynaecological Point of View; Dr. F. J. A. Torek on Cystoscopy from the Surgeon's Standpoint; Dr. Frederick Bierhoff on Cystoscopy from a General Standpoint, the latter illustrated by photographs.

A discussion followed by Drs. S. W. Bandler, Follen Cabot, L. A. Ewald, H. M. Silver, Carl Pfister, A. A. Berg, B. S. Barringer, A. L. Wolbarst, and S. W. Schapira.

The following physicians were recommended by the Executive Committee and elected to membership: Drs. Wm. Seaman Bainbridge, B. S. Barringer, Seymour Basch, Wm. Berkowitz, J. H. Goldstein, Richard Lewisohn, S. Moscovitz, Benj. Sindel.

The meeting was then adjourned to partake of a generous collation by the invitation of Drs. Wolff Freudenthal, M. Michailovsky, and M. Neustaedter.

(The above papers with full discussion will appear in the April number of AMERICAN MEDICINE.)

To remove rust from steel instruments place them over night in a saturated solution of zinc chloride. On removal the next day they should be rinsed in cold water, placed in a hot soda and soap solution and dried.—*Trained Nurse and Hospital Review*.



H. Edwin Lewis



American Medicine

H. EDWIN LEWIS, M. D., *Managing Editor.*

PUBLISHED MONTHLY BY THE AMERICAN-MEDICAL PUBLISHING COMPANY.

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Complete Series, Vol. XV, No. 4.
New Series, Vol. IV, No. 4.

APRIL, 1909.

\$1.00 Yearly
In Advance.

The proper disposal of the sewage of New York City is receiving much attention from some of the best sanitary engineers in the world, for there are new problems to be solved with no precedents for guidance. It might be said that every city has its own special difficulties, requiring inventive genius, yet a modification of a system found best for a similar situation elsewhere is generally all that is required. On the other hand New York is peculiarly situated, for it has an enormous population and no place for sewage treatment works except under the streets. Some cities are compelled to pour their sewage into streams which furnish drinking water for a lower community, and the effluent must be so thoroughly freed of impurities as to be potable of itself—a necessity which does not confront New York, which is merely required to purify its sewage so that it will not transmit disease, injure shipping, destroy marine *flora* and *fauna*, or fill up the channels with sediment. How to do this requires extensive experimentation and it must be done soon or the Federal government will intervene to protect the interests of the rest of the nation.

An experimental sewage disposal station is an immediate and urgent necessity. Other cities have solved their individual problems in this way for it was the only course to pursue. The expense involved

is a mere trifle compared to the future saving by the adoption of the most economical system worked out, and it is amazing that a community which spends twenty-two million dollars a year for such a luxury as cut flowers, would balk at the expenditure of thirty thousand dollars for an experimental sewage station. Moreover there are places in the harbor where ships cannot go because the gases from decaying sewage ruin them, but if those real estate owners had sense enough to spend a million dollars in sewage treatment, the increased dockage facilities would add twenty millions to the value of their property. The general government might see fit to assess New York City for the expense of dredging the sewage filth from the ship channels and this charge alone would be the equivalent of interest on many more millions. Those men who deny that sewage is filling the channels will some day wake up to the fact that they have involved the city in a bad mess. Only recently an engineer hopelessly senile, has shown himself to be ignorant of the last decade's addition to medical knowledge.

The life saving of modern sewage destruction is such a well proved fact that it is amazing it is not better known. Fortunately the cost of sickness and death can be put in those terms of dollars and cents which appeal to people having no other

kind of sense. Yet it is unfortunate that we must stoop to such sordid arguments to show the need of ending the economic losses due to diseases spread by New York's sewage. The human side must be considered, and the vicinity made as clean as it was when we stole it from the Indians. At present we are far behind European communities and must catch up. We strongly urge the appropriation of sufficient funds so that the experts can experiment to find out the best way of ending our present filthy habits. New York real estate is paying interest at the rate of thousands of percent a year, and the owners are putting a fictitious value on their property to make it appear to be drawing only 5 percent or less. This unearned increment of valuation really belongs to the community to pay for the improvements which make the property valuable. The fuss about huge tax rates must not blind the owners to the fact that unless they consent to great expenditures, the high valuations will not continue, and nothing will keep up values so well as modern sewage disposal. So let us have an experimental sewage station at once, preferably on Staten Island where there is room.

The sale of cocain in New York City is said to be rapidly increasing. In spite of a widespread recognition of the frightful effects of the cocain habit, and the passage of recent stringent laws designed to overcome an evil which bids fair to become one of the greatest in the country, every month finds an increased use of this drug. Only those who are familiar with the insidious character of the habit, its terrible effects on the mind, morals and physical condition of every victim, are capable of

realizing the evil which threatens society. In the south, the illicit sale of cocain to the negroes has materially added to the race problem, and in practically every state in the Union the increased use of cocain has been amply shown in the criminal records. No longer can thinking people look on the condition with indifference, for the present dangers are striking very close to every interest. No home is safe, no business is secure against the ravages of some unsuspected cocain fiend, whose irresponsibility may be all unknown. Sooner or later some fearful crime occurs and all too late the true facts are learned. The statement has been made that certain unscrupulous physicians are surreptitiously selling cocain to drug fiends. Without the slightest delay such men should be prosecuted and sent to prison. Mere words cannot express the contempt and disgust which every decent medical man will feel for any so-called physicians who can be guilty of such depravity. If new laws are needed to successfully combat this terrible evil, for heaven's sake let us work to get them. But we have a suspicion that the situation simply demands better enforcement of already existing laws, in which case our duty as men and physicians is even plainer.

Tolerance, Brother, Tolerance! If there is any one virtue that can add more to human happiness than another, it is the plain homely one of tolerance. Not a day goes by that the occasion does not arise when judgment can be passed on some one or more of our fellow men. According to our high or low estate, our judgment may carry a greater or less influence for weal or woe. If it is hasty and harsh it may, and often does, work an irreparable injury.

Sometimes the harm and hurt are absolutely unmerited, and yet, they can never be undone. A little thought, a little consideration of further details, the placing of oneself in the other man's place, would soften and perhaps alter the whole opinion. Could time be better spent?

Hasty condemnation—that is the crime we all most frequently commit. Why, it is hard to say. It brings no booty, gives no pleasure, serves no particular purpose. Perhaps it is just a common human frailty. But, nevertheless, it goes on adding to the world's tears, sadness and sorrow. As men get older they should get more mellow, become riper and have less of the acid that makes opinions and judgments harsh and acrid. Unfortunately, in the strenuous atmosphere of our modern business and social life, men do not ripen as they once did: and so the world loses much.

The whole trouble lies, as a rural philosopher says, in the fact that "too many people water and nurture the weeds in their gardens and leave the flowers and fruits to take care of themselves."

It is about time that the medical profession gave more attention to the "flowers and fruits in the garden" and less to the "weeds." Hypercriticism, denunciation and ill-gendered feelings have warped us, injured us, and held us back long enough. We must grow more kind to each other, more tolerant of each other's mistakes, shortcomings and frailties, and present a more tangible brotherhood, or the common foes of scientific medicine—ignorance, charlantry and faddism—will invade in still greater hordes the field that legitimately belongs to us.

It is not pessimism to sound a note of warning. The legitimate practice of medicine in these United States of America has

fallen on parlous times. This is not the cry of "wolf, wolf," nor the lament of a disgruntled or disappointed practitioner, but is based on communications with thousands of the country's capable medical men.

Let every city physician who reads this, look the situation squarely in the face. He will not need an expert accountant to point out the condition. More work and less money, continuing as it has for the past two years, will spell sooner or later but one word—R-U-I-N. It means that men who have fitted themselves by the hardest kind of study and work to fulfil a splendid mission for humanity will have to sacrifice their aims, hopes and years of effort, for the sake of those immediately dependent upon them, and go into other fields of endeavor less useful but more selfishly practical. It means a loss all round. The physician loses his years of study, effort and experience, and worst of all suffers a fatal hurt to his pride and honest ambitions; the public loses a faithful, valuable physician—and there is no greater loss.

What are the causes? One man will attribute the present condition to excessive organization, claiming that the public have seen nothing but a form of trades-unionism in the recent great activity in organized medicine. Another will shake his head at the various new cults and pathies. Another will claim that sanitation and preventive medicine are reducing disease to a negligible quantity. Still another will find the prime cause in the medical dispensary evil. Another will say that the enormous number of doctors is the real great cause. And so it goes. Probably each has contributed in part to the condition. But the thing, the real *thing* that during the past five years has brought the rank and file of

the American medical profession face to face with conditions never before encountered, is a spirit of denunciation, the insatiable desire to attack, denounce and destroy somebody or something. In a measure it has been the spirit of the iconoclast, a spirit which is not content to renounce, but must publicly denounce and strive to convert as many more as possible to do likewise. Purpose or motive, ninety-nine times out of a hundred, have not extended beyond the actual process of destruction. The destroy-lust has been uppermost and as a consequence medical literature has contained during the past decade a larger proportion of condemnatory, critical and depreciatory communications than ever before in the history of medicine. Meeting after meeting has been given up to attacks on men or methods. Not a few of us have become inoculated and it has almost become a fad to condemn everything right and left, to believe nothing, admit nothing. The logical result of this exaggerated condition of medical abnegation, with its elements of hysteria, and other psychic disturbance, has been to give the public the impression that the medical profession was sure of nothing, that colossal errors were being exposed and that every practitioner of necessity must go back to the beginning and learn everything over again! Foolish as this sounds it has actually been advanced by laymen of more than ordinary intelligence. If two, three or five men could have such a conception of the profession from their knowledge of medical men, there must have been many more. *A great distrust of physicians because of their seeming distrust of themselves, aptly describes the condition.*

Is There a Remedy? There most certainly is, and it will be found primarily in directing medical thought along constructive lines. Let us, therefore, cultivate a more deep-rooted conservatism, a conservatism that will find its chief glory in building up rather than in tearing down. If it is too much to expect the rapid growth of real brotherly love, let us at least foster the principle of mutual professional respect. Let us surrender to no man the rights of free thought and unrestricted speech, and to no man deny the same. In the pursuit of our profession and the working out of our destinies as doctors of medicine, let us be grateful for the opportunities constantly afforded for demonstrating our usefulness. Let us never forget that the practice of medicine constantly implies service, a service which we above all others are fitted to give. All this sounds preachy and platitudinous and harks back to some long ago class-day with its valedictory and studied oratory. But it does no harm to make the excursion once in a while and not a few of us would give much to feel again in our lives the lofty hopes and earnest ambitions that were ours on the day that we received our diplomas. Most of us, it is true, have wandered far afield. Hard reality has changed more than one viewpoint. But the same old fundamental principle remains and the height, length and breadth of the practice of medicine is service.

This then is the remedy that offers the greatest hope in overcoming conditions which threaten the practice of medicine. With the exaltation of professional service will come a just appreciation of what medical science has actually accomplished. As this unfolds in all the glory of its achievement, the baser things, the errors and mistakes all shrink to littleness.

The medical profession are a long ways from perfection, there is much that we do not know and much probably that we never will. We are not magicians nor wonder workers. But with our study of the human body and human nature, with our splendid literature and our experience at the bedside of the sick, we are qualified to give a service in the struggle with disease that is not possible by any other men on earth. This is only common sense. The worker in any other field of endeavor succeeds in proportion to the extent that he qualifies himself and becomes useful. None ever succeed by devoting their time exclusively to ferreting out and magnifying mistakes, supposed or real. Consider the successful medical men of our age. How many of them are spending any time with the evils and mistakes of medical practice? The science holds too many valuable discoveries, too many actual time-proven successes to warrant such a useless waste of time and energy. It is a moral certainty, therefore, that the practice of medicine will return to its own, that the cults and fads will fade by the wayside, when the medical profession once again awakens to its own worth and realizes that its members are the best fitted men on earth to give the special service that suffering humanity will always need. *A little more confidence and respect for ourselves and our calling, a little more tolerance for our fellow workers, and a recognition of this all important fact, that the public will trust and respect us only to the extent to which we trust and respect each other—this is the secret of a new era of professional prosperity.*

The value of harmless diversion in the care of the sick has long been recognized, but the subject has not been given the at-

tention it really deserves. The various sanitarium have been particularly remiss in the matter of providing suitable amusement for their patrons. As a consequence many an inmate in these institutions has all but died of ennui and lonesomeness. Under such conditions of inevitable mental depression, it is entirely probable that patients do not progress towards health with any where near the despatch that would obtain in the presence of reasonable and proper divertisement. Fortunately there are some health resorts whose directors are alive to the salutary effects of safe and sane amusement, and it goes without saying that such institutions not only thrive but do an infinite amount of good. The average person who enters a sanitarium is sick or thinks he is, and in this condition is always more or less childish in the sense of wanting two things, care and amusement. For this latter, simple games are excellent, and patients should be urged to play them. Moving pictures are a splendid form of amusement and it is not too much to expect that more than one sanitarium will sooner or later install moving picture outfits for amusing and diverting their inmates. When we stop to consider the profound influence which psychic conditions exert on bodily processes, especially during the course of a disease and its convalescence, the importance of even such comparatively simple things as games and moving pictures, is readily seen.

Pharmacologic accuracy is the rock on which the therapeutics of the future must be built. For a great many years the successive editions of the Pharmacopeia have been gradually establishing pharmacologic standards and the 1900 Revision was in

some respects a notable advance over its predecessors. Without depreciating in the slightest the splendid work of those who were responsible for the 1900 edition, we are nevertheless hopeful that the next convention will accomplish much more in this direction. Not a little of the widespread drug nihilism of the present period has been due to the uncertain and variable character of preparations of our commonly employed drugs. Hardly anything is calculated to create a more general distrust of common remedies than the wide variation in physiological action frequently observed from identical doses of the same drug, though obtained from different sources of manufacture. A physician ought to be able to prescribe a tincture of digitalis or a fluid extract of ergot in New York City or San Francisco and feel that his patient will get a product of uniform pharmacologic strength. As a matter of fact he is hardly ever able to feel secure that he will get a uniform product on different occasions in the same drug store. There is this exception, however. Several of the large manufacturers are standardizing their various drug preparations and the use of their products offers a real protection to physician and patient alike. As a matter of insurance the specification of brands becomes therefore an urgent necessity. Desirable as this will always be from certain standpoints, it ought not to be the only means whereby uniformly potent drugs can be secured.

A National Bureau of Assay and Standardization will doubtless come someday, possibly as a detail of our future Department of Health. Such a bureau could establish fixed standards for all drugs capable of standardization, and through systems of

inspection assure their maintenance. The large manufacturers would readily co-operate with such a plan and serve, as they should, as depots for supplying standardized products to the trade. This to a certain extent is the condition which already exists, but it would extend much more rapidly if the National Government took the matter up as above suggested. In the interests of our modern materia medica and the legitimate place which drugs always have filled and always will fill in the successful treatment of disease, we earnestly hope that the question of drug standardization will soon be given far more practical consideration than it has thus far. If Government aid is necessary, by all means let us invoke it. But no matter how it is accomplished, may the day soon arrive when no druggist will dare—or even care—to be found dispensing any other than definitely standardized drugs.

The control of vagrants and the cure of vagrancy are two vastly different things, both highly desirable and both in process of realization. The first step is the farm colony advocated by the charity organizations and its creation should not be delayed a minute. The economic side of the matter is overwhelmingly clear because vagrancy annually costs the nation an appallingly large number of millions of dollars, a waste which may be prevented by the expenditure of a mere fraction of that sum.

The medical side is the one which concerns us chiefly and the one to which the least attention is paid by the business men who of necessity must be more actively engaged in the practical part. It must be clearly understood that few vagrants are wilfully idle, but that they are defectives

to be cured if possible, and confined for life if incurable. Many, if not all, are profoundly neurasthenic, a result not only of congenital defect due to the thousand and one causes of degeneration, but exaggerated by the strains of improper work, defective food and the alcoholism which invariably complicates the case.

Insanity and vagrancy have nothing in common, except the fact that an abnormal environment may sometimes cause one and the other, but the management of the two classes presents many remarkable parallels. It is but a short time ago that the insane were considered wilfully vicious and therefore to be subjected to the most cruel and inhuman punishments or restraints. The pioneers, who showed that the insane were sick men to be gently managed, had a hard task in convincing the profession and public; in like manner the pioneers who twenty years ago proved the same facts as to vagrants have been given scant courtesy. In every part of the United States the sole idea of the authorities mostly concerned with vagrants, is to put them to hard labor which only exhausts them still more, and then turn them loose to be parasitic on the next county. The poor sufferers thus keep moving on and moving on until they step into the happy relief of the grave. Our remarks in a previous issue calling attention to the medical problem involved, have unfortunately been misconstrued as an opposition to the proposed colony and we take this opportunity to give it our hearty support in unmistakable terms.

The scientific study of vagrancy may now be confidently expected as soon as the greatly needed farm colonies are established. The cause of the inability to work

will be discovered in each case, and this alone will disabuse the public mind of the idea that a weakling can be made strong by increasing his exhaustion with hard labor. Food and normal living are of course the main reliance in cure, and it is not too much to hope that in time the class of "unemployable unemployed" will disappear. Modern industry is based on the fact that laborers can be hired at any time, consequently a small percentage of unemployed workers is irremediable, but the great mass of idlers here and abroad are chronically idle. Nor is it too much to hope that the remote causes of vagrancy and pauperism will be found, so that prevention will obviate the necessity for so much curing. Most of the cases come from respectable hard working parentage, and have been ignorantly injured in some way.

The dread of visiting a like misfortune on our own descendants should cause us all to wish God-speed to the new movements, for it is Eugenics of the noblest kind.

Ovarian sterilization by Roentgen Rays has now become a well established therapeutic method though it was suggested years ago as soon as it was discovered that mild applications destroyed the vitality of spermatozoids. Dr. Foveau de Courmelles now reports (*Archives of the Roentgen Ray*, March, 1909) fifty-three cases of uterine fibromata in which, with one failure, the application of the rays induced a premature menopause with the usual slight nervous phenomena normally present. Unfortunately he does not report the very thing we most desire to know—the effect upon the fibromata. It is presumed of course that their growth

was checked as after an ovariectomy, but it is essential to know the subsequent histories before we can determine whether to resort to sterilization in preference to the more radical surgical operations. The large number of treatments needed, 100 to 150 of fifteen minutes each, is a drawback, but most patients would gladly submit to that in preference to a mutilating cutting operation.

The excision of chancres has been proposed time out of mind and always abandoned because it did not prevent the disease, and indeed there was some evidence that the subsequent course was occasionally worse even if masked at first. The newly accepted proof that the *spirochaeta pallida* is the cause, has renewed the hope that prompt excision will remove all the organisms, but Dr. G. Frank Lydston of Chicago very properly sounds a note of warning against such practices. (*N. Y. Med. Jour.*, Mar. 20, 1909.) The chances are that when macroscopic lesions have developed, the microscopic organisms are far beyond this area. Excision should only be resorted to when there are imperative domestic reasons. Modern hypodermic treatment is becoming so well developed that rapid subsidence of symptoms can be expected in the vast majority of cases, and there is no reason why a cure cannot be promised without resort to the knife. Occasionally, of course, a patient demands removal of a chancre because he is in a deplorable mental state, but he must be made to understand the necessity for prolonged active medication.

The fevers resembling typhoid have long baffled solution but now seem on the point of explanation, thanks to the modern

laboratory. A short time ago it was satisfactory to class as "malaria" every short simple fever which recovered, but such slipshod methods are intolerable now that it is possible to find the infecting agent. Already it is known that there is a group of fevers clinically identical with typhoid and due to several of the typhoid-colon group of bacilli;—para-typhoid, para-colon, enteritides psittacosis, and *faecalis alcaligenes*. Coleman and Hastings (*Amer. Jour. of the Med. Sc.*, Feb. 1909) have now added the *bacillus coli communis* to the list and it is evident that the cause of a typhoid fever cannot be found without the aid of the laboratory. Practically it makes no difference as yet, for the treatment is the same for all, but in time sera and vaccines are sure to be developed to the point in which their use will be as imperative as anti-toxin now is in diphtheria. We might as well begin to prepare for the future when treatment will depend upon the discovery of the specific infecting agent—a treatment which might give us a very high percentage of cures. Every bit of investigation tending towards this desirable point is to be welcomed, and the time is not so far off when it will be considered criminal neglect to label a case as typhoid or like typhoid and make no effort to find the cause.

The short fevers of unknown cause are still a blot upon scientific medicine, but fortunately they are not such a great problem in the temperate zones as in the tropics where there seem to be many kinds of protophytes and protozoa which flourish for only a short period in the body and which are unable to cause any worse damage than mild temporary disability. Nevertheless there is a suspicion that they

reduce resistance to other infections and thus pave the way to death, so it is of the utmost importance that the etiology of all fevers be cleared up, particularly in the cases no one would think of including in the typhoid group. The intestinal tract is doubtless the habitat of many of the fever producing agents particularly in children and then there are the climatic cases, so that it is certain that the old "simple continued fevers" are not one group, but several classes due to widely different causes.

The ultra-microscopic causes of fever are the most baffling present day research problems. It has been shown that the unknown organisms of the following diseases of man or beast can pass through a Pasteur-Chamberlain filter;—yellow fever, pleuro-pneumonia of cattle, rinderpest, hog cholera, horse-sickness and foot and mouth disease, and now an Austrian army surgeon, R. Doerr has added another, a three day fever somewhat resembling dengue but passing under a variety of names such as summer fever, summer influenza or endemic gastric catarrh. (*Berliner Klin. Woch.* Oct. 12, 1908). Lieut. Colonel C. Birt, R. A. M. C., in calling attention to the matter in the (*Jour. of the Royal Army Medical Corps*, Dec. 1908) suggests that similar investigations may show an ultra-microscopic cause for some of the "simple continued fevers" which so afflict the Army and Navy in the Mediterranean. They occur mostly in the summer and might be transmitted by insects as in the case of Doerr's fever which is proved to be carried by the "owl midge," (*phlebotomus papatasi*.) There is ground for believing that in this direction we will discover the causes of many unrecognized diseases.

Anti-typhoid vaccination with dead cultures of the bacilli has been given an extensive trial in British regiments serving in stations where it is difficult or impossible to avoid infection, and the results so far are extremely impressive. Lt. Colonel W. B. Leishman, R. A. M. C. states (*Jour. Royal Army Medical Corps*, Feb. 1909) that of 5473 soldiers inoculated only 21 were subsequently infected, with two deaths, while of the 6610 non-inoculated in the same regiment, 187 had typhoid and 26 died. Moreover, of the 21 inoculated cases, 13, with two deaths, had received the old vaccine which has since been greatly improved. Four cases had received only one inoculation and were mild. Only four contracted typhoid after two inoculations and all were very mild, and indeed the diagnosis was doubtful in one. Such results should be heeded by nurses and others who come in close contact with typhoids, for the dreadfully large percentage who become infected, shows that prophylaxis is faulty or impossible. Thus one more of the dangers faced by those who devote their lives to managing the sick, seems about to be obviated.

Family immunity is such a well known phenomenon that it is rather remarkable it receives so little attention. Every physician knows of innumerable instances in which one member of a family has been infected, say at school, and yet no other member acquires the disease from this case, though living together in the most crowded, even unsanitary conditions. Dr. Brandies of New York showed that, as far as scarlet fever is concerned, this was really a family immunity (*N. Y. Med. Jour.*, July 27, 1907) and did not extend

to neighbors, nurses or servants of other blood, but it is time to determine whether the phenomenon is found in other diseases as well. The only explanation so far offered is the theory that all our parasites are so modified or attenuated in our bodies that they are unable to thrive in a similar host, and this of course presumes that there is some difference between human families of the same nature as that known to exist between different species. Parasites to be healthy cannot continue too long in any one environment but must change from host to host of different stock. A nurse, then, may run much more risk in caring for a stranger's child, than in nursing the sick of her own family.

The problem of school quarantine becomes much clearer if there is any truth in this new theory. A child may be so slightly ill from an attenuated infection received from a brother or sister that it continues to go to school and may transmit a fatal infection to class-mates. It does seem that infectious diseases of childhood are in part kept alive by this constant transfer by carriers in schools or other assemblies. Of course, convalescents are probably the chief carriers of all diseases, but the other class must not be overlooked by our vigilant school inspectors. The modern tendency to forbid school attendance where there is any infectious disease in the family, is certainly in the right direction and deserves encouragement from the parents themselves.

The therapeutic value of sea air should be accurately determined if it has any specific value not possessed by land air. Former attempts to explain the remarkable improvement of certain cases at the seashore or on shipboard, have been

deplorably contradictory and due to the absence of exact information. Some years ago, a medical writer in the (*Neurologische Zentralblatt* No. 14) stated that sea air was both stimulating and sedative in the management of neurasthenia for which he recommended it, yet one class of men who live in sea air, naval officers, are so often disabled by neurasthenia as to raise considerable alarm in the European navies. Another physician has gone to the opposite extreme and recommended life in the Sahara desert, although such climates are notoriously productive of neurasthenia in white men. A half century ago, a long sea voyage was considered a specific for consumption, but now the problem of tuberculosis on war ships is a most serious one. Evidently sea air of itself is of no effect one way or the other in either tuberculosis or neurasthenia, and the real factors remain undiscovered. In this as in thousands of other assertions of by-gone days, there is the utmost need of accurate observation and generalization. The present tendency to locate sanatoria on the sea shore may be based on nothing more solid than the sands themselves, and the frequency with which inland places are lauded as better than the seashore raises the suspicion that we had better investigate this matter further.

With this issue Dr. H. Edwin Lewis assumes the managing editorship of AMERICAN MEDICINE, and Dr. Frank C. Lewis to whom so much is due for the present standing of the journal becomes the managing editor of the *International Journal of Surgery*. It is needless to state that there will be no change in the policies of either journal, simply a continuation of the same earnest efforts that have been responsible for the position each publication admittedly fills in its respective field.

ORIGINAL ARTICLES.

THE NEGLECT OF MEDICAL LITERATURE.

BY

BAYARD HOLMES, M. D.,
Chicago.



Hypocrisy precedes righteousness. We may therefore hope for medical scholarship and culture. Nearly every medical school now pre-

tends to have a library, and some of them do have not only collections of medical books, but libraries. The material has preceded the ideal. The books are as a rule unused. Students call for text books and now and then a scholarly boy who has by misrepresentation gone into medicine, studies out a subject in the medical literature greatly to the confusion of his teacher and to his own complete disillusionment.

The professors do not use the medical library as an engine of education. There are no theses, no journal clubs, no investigations of the literature of any medical or surgical subject. The best students are put in small classes and study quiz compends and learn medicine as children learn the catechism. The rest of the class hear lectures and cram on notes before the examination. The library if open at all is a reading room, or study room for those students who have no better place to go.

The fact that nearly all medical schools pretend to have medical libraries and some of them do have considerable collections of books, well classified and under the care of a professional librarian speaks for a possible step forward in medical pedagogy

which will revolutionize not only medical education, but medical journalism and medical book publication. The short sighted publisher who now selects his books to sell to the physician that our narrow medical curriculum produces will hunt for scholarly and creditable literature. The size, weight, illumination and novelty of the volume will stand for less than the maturity of judgment, grace of expression, and justice of conclusion of the author.

One of my students made a bibliography of all the contributions for the past fifteen years of the professors he was attending. He then criticised their several literary productions. One of these men who occupied until after this essay was begun the most exalted place in his hierarchy of medical wisdom had contributed only four articles to the medical press and only one of these contained anything of value. One had made many contributions, each in the nature of a wonderful discovery. Three of these discoveries were associated with his name, and all of them had lapsed into innocuous desuetude.* One had harped upon one string and a small string at that for six years and then suddenly begun to use the knife and rewrote the subject over again with that instrument in hand. This student was completely upset by his discovery of the bluff and sham of his teachers, and I am afraid his happiness in practice has been destroyed.

Many of our medical students study a few months or a few years in Europe. They then first become acquainted with medical literature, usually in the German language. When they return they bring back not only a Teutonomania but a great distaste for the American teachers, who had tricked them and the whole American profession as well. This is not a happy

state of affairs. One of our young pediatricists was lamenting the absence of any colleague in America who sympathized with the ideas he had just brought back from Deutschland. He said there was nothing in the American journals worth reading. It seems to me he was only half right. He was wrong because he left America with a lot of bombastic self-satisfaction which a knowledge of our medical literature begun as a freshman and carried on through a four year course would have displaced with a scientific modesty which would have made his study abroad more profitable and his subsequent professional relations far sweeter. Now he needs years to orient himself with the surroundings of his profession.

The student body is becoming far too good material to submit to the antiquated methods of our medical schools and one or two schools are showing the possibilities of a better method of pedagogy. The tripod of medical education rests on the teacher, the patient and the experience of the medical profession,—the faculty, the clinic and the library.

When the faculty is selected it must count the contributions of value each member makes to the literature each year or decade. Not numbers, but quality. Pot boilers alone will not do. *The Journal of the American Medical Association* is said to receive clippings of articles from all the newspapers of the United States and Canada in which medical men or medical affairs are mentioned and these are placed on file for use and reference. I never have heard that any university kept the files of contributions of the members of their medical faculty to use as a basis of advancement or election.

The present day medical student thinks

his compend of anatomy contains as complete an anatomy of the human body as the multiplication table of his arithmetic. His instructor in anatomy is as infallible as the schoolmaster who taught him to multiply and divide. The text book of each branch as he goes on with his course is accepted as complete and final. It takes practice or a hospital experience to set the text book and quiz compend on the shelf together. If the library had been used during the medical course, the student would early learn the place not only of his text book but of his teacher as well.

Unfortunately the state examinations keep up the catechismal method in the medical school by their exclusive written examination. For some thousands of years China has employed the same method and only recently have they begun to abandon it. Must we follow China? The written examination as carried on at present is fatal to medical scholarship.

With an improvement in the outlook of the average medical man, there would inevitably come a betterment in our literary output as represented by the medical journals. It would not moreover be necessary to legislate against medical advertisers as their wares would not be used by a better class of readers. Energy spent in improving the culture of the profession is energy spent for good. Energy spent against skate medical advertising is possibly against evil, but extravagant and questionable.

With an improvement in the horizon of the outgoing students, would come a higher grade of medical society work. As if the catechism in the medical school was not enough, the medical ward heeler is given work in perpetuating the monstrosity in so-called post graduate review and the

inane outlines of such kindergarten farces are given space in some of our best journals. The similarity of these outlines to the Sunday school lessons is quite suggestive to the well wisher of medicine. Our medical societies should not be trade unions. They should not be managed by illiterate wire pullers and heelers. Their legislative functions should be over shadowed by their scientific and social activities. Their ethics should be embraced in their undertakings and achievements rather than in their bylaws and censorship.

But doubtless the greatest change to be expected from cultural medical education would be in the higher respect which the profession would thereby command and better compensation it would receive. The narrow artisan is not so well paid as the artist because he works with a lower ideal and contributes less to the unmarketable reputation of society. The good doctor commands greater emoluments than the pill peddler because he serves outside technical medicine more than within it.

We shall best serve the interest of our profession and restore it to its ancient position of honor by instilling the broadest scientific and social spirit, the most cosmopolitan culture and the solidarity of service rather than by the suppression of any evil however flagrant.

LEUCORRHEA OF PREGNANCY.—Some women are troubled by excessive vaginal discharge during pregnancy. A treatment very effective is as follows: (1) Vaginal douche of plain water, lukewarm; (2) this is to be followed immediately by a douche containing two tablespoonfuls of dry yeast to a quart of tepid water; (3) introduction of a tampon soaked in a mixture of equal parts of yeast and warm water. Most pregnant women are better off without douching. If they insist upon a weekly douche, normal salt solution is best.—*Am. Jnl. of Clin. Med.*

THE THERAPEUTICS OF OLD AGE.¹

BY

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It seems singular that when so much literature is to be found upon the subject of diseases of children, that that of old age

is limited in quantity and scattered over a large territory. If we have specialists who occupy themselves in reducing infant mortality, why should we not also have specialists in diseases of old age, thereby rendering one's last days more comfortable? There seems to be even more reason, for, while infant mortality has been reduced owing to the skill and study and experience of pediatricists, the results although numerically striking, sometimes result in children being kept alive and only alive. The future of the child is a matter of conjecture—whether the life saved will be worthless or not. But certainly one who has attained advanced life for the benefit of the race, who has sacrificed himself, his fortune and social position for the benefit of humanity, is entitled to have the cares, troubles and diseases of old age reduced to a minimum.

If we have pediatricists, why should we not also have presbyatrists? Pediatricists sometimes fail to realize that children grow to adult life, and we find pediatricists

¹ Delivered before the Therapeutic Society of the District of Columbia, March 5th, 1909.

attending adults. There is no definite time at which the functions of the presbyatrist begin. Who will say when old age commences? Hippocrates and Flourens place it numerically at 70; Canabis at 65; Reveillé-Parise at 55. The most quoted definition of old age is that of Cazalis: "One is the age of his arteries." A remark which has been attributed to many eminent clinicians since his time. A flip-pant definition is that which obtains in ephemeral literature—"A man is no older than he feels, and a woman than she looks." The definition ignores both chronology and pathology.

Probably the oldest and best known treatise on old age is that of Constant, *Die Krankheiten des Greisenalters*, 1839. Others are Day, *Diseases of Advanced Life*, 1849; all carefully written; a book based on clinical observation; Charcot, *Les Maladies des Veillards*, 1867, treating chiefly of rheumatism; Humphrey (*Old Age*, 1889), and last of all, Minot, "Age, Growth and Death," 1908. Old age can be definitely said to commence when the respiratory capacity has lessened and the record of the spirometer begins to steadily diminish; disease of the lungs or heart being excluded.

No one can consider old age as a disease; in fact, old age, or senility should not be accepted as a cause of death. And yet old age brings in its train certain diseases which of themselves are adequate to cause death. In taking this view we differ from the philosophical conception of old age which has obtained for nearly a thousand years. Such as was the view of Cicero advanced in *De Senectute*. Yet one may say "*Mihi quidem ita jucunda hujus libri confectio fuit ut non modo omnis absterserit senectutis molestias, sed*

effecerit mollem etiam et jucundam senectutem". The ancient author sums up in that inimitable essay, that the complaints against old age are first; exclusion from active life; (2) enfeeblement of bodily powers; (3) deprivation of sensual pleasures; (4) the near approach of death. Looking at this from the philosophical side only, following out the teachings of the philosophy which had obtained for a century at Rome, he answers that age has its own activities; that memory is not necessarily defective; and self respecting old age is honored. Age, it is true, is incapable of bodily pleasure, but in this it has the advantage of youthful passion. Old age has the joys of companionship, science and authorship. Only a well spent youth can prepare for an honorable old age. Unhappiness in old age is a fault of temper in the old. Death is no evil; it is either a cessation of being or a blessed change. The hope which sustains labors is the anticipation of a noble life.

There is, however, a pathology of old age. It is the exception rather than the rule that we speak of the age that melts in unperceived decay. As a general proposition we agree with Meigs that fibrosis is a disease of age. Coupled with this are fatty infiltrations and degenerations, calcareous deposits, and atrophy of the parenchymatous organs.

Balfour makes the statement that heart and brain escape senile failure. This is only relatively true. In the brain we find the sulci deepened, chronic meningeal degenerations, and, frequently, local softening. The heart enlarges in bulk, but the real senile change in it is a weakened myocardium. In the arteries we find arterioma, arterio-sclerosis, arterio-capillary fibrosis (Gull and Sutton), and the capil-

lary areas obliterated. As long ago as the time of Magendie it was pointed out that density of the lungs diminished, the quantity of blood which they can admit is diminished and that there is emphysema and various fibroses. In the kidneys we find, as a rule, chronic interstitial, or as I prefer to call it arterial, nephritis. The liver is atrophied; the spleen is atrophied; the lymphatic system is the seat of a degeneration and large lymphatic areas are obliterated. In the pancreas we find atrophy of the islands of Langerhans. In the intestines are observed atrophy of the secretory glands, of the mucosa and muscularis. In the bladder wall are hypertrophies. We find catarrhal cystitis even independent of an enlarged prostate. The skin is atrophied and wrinkled. In the bones we find two distinct conditions; the flat bones are thickened, the long bones are atrophied as to their cancellous structure.

Minot, in his recent book, has attempted to show that the essential change in old age is the relation of cell nucleus to protoplasm. In other words, that cytomorphosis determines age. He defines these laws of cytomorphosis as follows:

1. It begins with an undifferentiated cell.
2. It is always in one direction, through progressive differentiation and degeneration, towards the death of the cell.
3. It varies in degree, characteristically for each tissue (hence in the adult higher animals all stages may co-exist).

Reversed cytomorphosis is not known to occur.

Basing the laws of age upon cytomorphosis, he presents them as, first; rejuvenation depends upon the increase of nuclei. (2) Senescence depends upon the

increase of protoplasm and upon the differentiation of the cells. (3) The rate of growth depends upon the degree of senescence. (4) Senescence is at its maximum in the very young stages and the rate of senescence diminishes with age, and finally his general conclusion is that natural death is the consequence of cellular differentiation. The weakness in this presentation lies in his third proposition.

From a practical standpoint, we may consider various symptoms referable to the different physiological symptoms and perhaps give you the results of experience in meeting these symptoms and relieving the discomforts incident to old age.

For the brain, sleeplessness and loss of memory are probably the most striking symptoms; the inability to acquire new ideas, and this is perhaps best explained under the theory of Mosso—of a continual brain fatigue. The loss of memory is a peculiar one. It is limited generally to that of recent events, while the recollection of events and incidents many years antedating this period are just as vivid as those of yesterday for the old and often related in microscopic details.

In the sleeplessness of old age hypnotics must be used sparingly. Probably the best is choralformamide. A hot bath, temperature 102 to 104 degrees will succeed more often and yield better results than any chemical hypnotic. To be avoided are hypnotics of the trional and veronal groups. Seven instances of haematoporphyria caused by these drugs, have been in the aged, so far as my observation goes.

As regards the heart, almost every symptom which an adult can have is complained of by old people, from precordial

anxiety, intermittent, irregular pulse, palpitation, tremor cordis, tachycardia, bradycardia, even to delirium cordis, and true angina pectoris.

In the treatment of these conditions vaso-dilators play an important role. The careful administration of thyroid extract will relieve high arterial tension, but that means a small dose to which a direct cardiac stimulant may or may not be added. Digitalis should never be used in the old on account of the marked spasm which its prolonged use tends to produce. Strophanthus is the drug of choice. Balfour in his little book lays great stress upon the use of strychnine for the senile heart. Better results have been obtained in my experience from caffeine sodio-benzoate in moderate dose, not only as regards the relief of cardiac symptoms but in the improvement of the circulation. Arsenic iodide in small doses lessens to a marked degree the debility of the heart, and iron, in such form as can be assimilated, by increasing the oxygen-carrying capacity of the blood, certainly is of marked benefit.

For the lungs, coughing, wheezing and dyspnoea are prominent. We all know the bent and emaciated old man, over-clothed, who sits in some warm corner, who, if he ventures forth, the moment the wind changes, immediately returns to his fire. We know the man whose perspiring skin is so sensitive that, even if he is securely housed in the third story back room, he sneezes the moment the front door is opened. He is worthy of considerable more attention than the clinicians have given him. In the question of diagnosis there is a fact which has been lost sight of, and yet it was first presented in 1835 by Housman and Deschambre, that the interlobular fissure tends to be-

come vertical in old age, so that the physical signs of basal disease may be located at apex. We must bear in mind that calcification of the costal cartilages prevents expansion of the lungs. We must remember that we have not only atrophy resulting in the lung tissue, but we have an increased secretion from the bronchial mucous membrane. Lung diseases in the old are chiefly senile bronchitis, emphysema, pneumonia, and a disease which is rather infrequently recognized, but is far more common than is popularly supposed, pulmonary tuberculosis, the last running a chronic course and generally overlooked. The peculiarity of pneumonia in the aged is that it has not the tendency to recovery as in the young adult, but to extension, and this extension is probably due to the obliteration of the lymphatics, so that the exudate is absorbed with difficulty, and as a result we have forms of degeneration leading to, occasionally, abscess and gangrene.

The important remedy in senile bronchitis especially and in other diseases of the lungs in the old is strychnine, and in the early stages, particularly of pneumonias, ammonium carbonate in frequent doses which when given in milk will usually relieve the conditions without disturbing digestion.

The air of the apartment occupied by the old should always be dry; not the dry dusty air of furnace-heated houses but clean air. It may be artificially dried by calcium chloride or strong sulphuric acid. Inhalations have never yielded any brilliant results in my hands, those of camphor excepted. The patient needs no digestion-disturbing cough syrups and opium is absolutely forbidden.

For the symptoms referable to the kid-

neys, the use of nitrites and high intestinal irrigation are important. As I had the honor of presenting this subject to you some four years ago, I will not repeat.

The symptoms from the liver are chiefly icterus and flatulence. While I am not a believer in calomel as the beginning and the end of liver therapy, yet occasional doses of calomel benefit the patient. But the salicylates administered in connection with phenolphthalein will yield far better results.

The atrophy of the spleen should be considered; it certainly has a great deal to do with our metabolic functions and the production of anti-toxins, and perhaps the atrophy of the lymphatics adds to the symptoms. The susceptibility to infections which the old have acquired and the unexpected fatal results from apparently insignificant causes call for caution. Massage here, as in diseases of the lungs, certainly improves the circulation not only of the blood but of the lymphatic system and affords a good deal of relief.

The intestines have recently received a good deal of attention. From the pathology, constipation and flatulence are important symptoms. Diarrhoea which is symptomatic of other conditions may occur without warning; when vigorously treated can be relieved, but in many instances death from cerebral hemorrhage may occur. In Metchnikoff's last book his presentation of the disharmonies is exceedingly interesting, but we cannot agree with him that the large intestine dominates either the question of auto-intoxication or is a necessary adjunct of civilization and that it may be dispensed with. That this is a serious problem is

shown by the recent death of a silly fool who had his large intestine removed.

We can avoid constipation even with the pathological conditions which I have noted; physostigmine salicylate (eserine) in 1-60 gr. dose, at bedtime will increase peristalsis when other better known remedies fail. Phenolphthalein, mentioned above, has been used by me for seven or eight years and with uniform success. While massage is of very great importance, used in connection with laxatives, yields brilliant results.

The relief of bladder symptoms belongs mainly to the realm of surgery, yet the physician can do much to relieve catheter life and the use of hexamethylamine may postpone prostatectomy.

The senile skin is perfectly characteristic in appearance but the itching of which many patients complain whose habits of cleanliness are irreproachable, leads one to believe that the cause of this annoying symptom is pressure upon the nerves of the skin. An old French patient of mine, who after thirty years' residence in the United States had never acquired any English, vigorously expressed her opinion of this annoying symptom in language beyond the ken of the foreigner. In this particular instance and in some others which have come under my observation a purely empirical prescription which I found in an old German text book has yielded satisfactory results. It consists of 10% of tincture of digitalis, 2% of hydrocyanic acid in the solution of ammonium acetate. Of course the old Lessar bath, sodium bicarbonate, sodium borate and starch of a temperature of 100 to 102 deg. F., can be employed.

The question of feeding for the old is necessarily important.

Special directions: (1) Never less than five hours between meals. (2) No solid food between meals. (3) Principal meal near midday. (4) All meals to be as dry as possible.

Avoid food likely to cause flatulence. Not more than five ounces of fluid with each meal. *Vinum lac senum* is not an absolute rule. Alcohol only for those accustomed to its use. One half ounce of brandy or whiskey in three or four ounces of water; a single glass of port or sherry, ammontillado preferred.

Diet: Breakfast 8 a. m. Small slice toast (1½ oz.) with butter; one soft-boiled or poached egg; or ½ a small haddock, or other white fish. Three to five ounces of tea or coffee with cream and sugar. Tea may be replaced by cocoa or milk with hot water. Well boiled oatmeal (three or four ounces) with four to five ounces of milk may be substituted for tea.

Dinner 1 p. m. of two courses, i. e., fish or meat, pudding or fruit. White fish of short fibre, boiled, steamed or broiled. One-half a small chicken (white meat) or sweetbreads, game, lamb. One small potato, boiled or baked, or a small portion of spinach. Pudding, a simple milk pudding or rice, sago, or tapioca or suet. Fruits, as ripe pears, apples, grapes 4 to 6 ounces, hot water to be taken if desired.

5 p. m. tea with cream and sugar but no food. In place of tea, a teaspoonful of solid beef extract in hot water may be added.

7 p. m. Supper. White fish and one potato, or toast with butter. Milk pudding or bread and milk.

10 p. m. Bedtime. Five ounces of hot water to be sipped.

For thirst, beef tea or hot water, to be sipped four hours after each, or the principal meal.

General directions: Avoid cold especially at night. Hot water bags, carefully protected so that no burns may arise (for burns in the old heal badly) are a source of great comfort to the aged. So many old people are found dead in bed for which no important cause can be ascertained, save lack of warmth, that this subject should be emphasized. Among the devices of old people to keep warm at night, one may be mentioned. Boerhaave cites with evident approval the case of an old man who slept between two young persons and thereby "acquired" a visible increase of vigor and activity."

No discussion upon the aged can be considered complete without referring to Luigi Coronaro, who was born in Venice in 1464 and died in 1566. The book in question, *Trattato de la Vita Sobria*, was published in Padua in 1558, and an American edition in Andover, in 1824, which curiously enough received the sanction of the theologians at Andover. His work caused more popular discussion than the Emmanuel movement of today. Coronaro at the age of 40 was given up to die from the result of early excesses. He put himself upon a daily allowance of bread, meat, and yolk of egg to twelve ounces daily with fourteen ounces of light Italian wine. Upon this he lived for nearly forty years, viz., to the age of 78, when in the *argot* of the time, he "got gay" and increased his meat and his wine by two ounces each day. This caused a sickness which lasted for twenty-one days; then he resumed his former diet, and died at the age of 102. The only moral to be drawn from Coronaro's work is temperance.

More recently we have had Fletcherism, but the man who follows Fletcher's advice in its entirety will have little time for anything else. Old age is very closely allied and very largely dependent upon certain slow poisons. Among these may be cited tea, coffee and tobacco. More important perhaps than these is overeating, and these are perhaps the most potent causes of the changes to which old age is subject.

Three years ago as the result of many conversations with Metchnikoff I reviewed very carefully the literature. While there is a certain validity to his arguments, the author is very likely to return to the fact that the Bulgarians may live 138 years on a diet of sour milk. The reply is that perhaps they did not live to that age, they but simply existed, and that while sour milk might benefit the Bulgarians, he could certainly never expect the same result in Paris. During the past four years I have investigated all—six I believe—commercial brands of artificially soured milk, all based more or less upon the Metchnikoff theories, and as yet I am unable to say that I have found any results worth recording.

Exercise which an old person can take is usually beyond what they think they can endure. If one begins with massage, follows with resistance movements, and later succeeds in getting these old people out of doors, driving, or better still, walking, the relief of symptoms follows much faster.

Some people never grow old. Heredity and habit of life have much to do with youthful senility. Most of you have read that rollicking little poem by Oliver Wendell Holmes, whom it was my privilege to know during my old student days

at Harvard, which commences: "Has any old fellow got mixed up with the boys," and can readily believe that he never grew old.

In conclusion, let me say that he who has lived an honorable and useful life is entitled to our most careful study to the end that he may attain to a comfortable old age.

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GASTROPTOSIA.¹

BY

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Since Virchow has attempted to give to the science of medicine an anatomical - pathological foundation in place of the

speculative basis on which it had largely rested up to his time, he has found many followers. And so efforts have been forthcoming to explain the whole array of protean symptoms which are grouped together under the designation nervous dyspepsia, by anatomical reasons. Kussmaul had the distinction of being the first to point out in a definite manner the connection between functional or apparently functional disorders and displacements of the abdominal organs. He was followed by Glenard, Meinert and many others, some of whom have certainly gone too far in emphasizing the significance of these malpositions of the stomach and other viscera. The difficulty of forming a clear judgment

¹Read before the Williamsburg Medical Society, February 9th 1909.

The author is indebted to Dr. Chas. Eastmond of Brooklyn, for the excellent X-rays submitted herewith.

about these conditions and their interdependence, and apportioning the proper share to anatomical influences on one side and nervous impressions on the other, can be explained on three grounds. The well understood difficulty of defining an ac-

ty that surrounds the question: which is the normal position of the stomach? While we had supposed that the greater curvature represents the lowest point of the normal stomach, which rests in a semi-vertical position between the diaphragm



J. B. aet. 22. Healthy young man without any stomach symptoms. Lower curvature about on the level of the umbilicus. Taken as normal.

curate boundary between a neurosis and organic lesions, the fact that a neurosis might be and frequently is associated with organic lesions and, thirdly, the uncertain-

and the transverse colon, recent radiographs have given very different results. According to some of them the lowest point of the stomach is formed in the up-

right position by the pylorus with the cardiac part in a vertical, the pyloric part in a horizontal position.

I should have to devote my paper entirely to this question if I attempt to give you all the views that have been published lately. Amongst the pictures shown to you by Dr. Eastmond, to whom I beg to express my sentiment of profound gratitude for his enthusiastic interest and his beautiful work, you will not find one stomach which measured by this standard would be pronounced normal. But whatever the final verdict of more extensive investigations might be, one fact remains certain that its occurrence might be considered pathological. Considering that the majority of all adults, male as well as female, have a more or less pronounced displacement of the stomach, I prefer to define gastroptosis as that displacement which gives rise to disturbances of the physiological equilibrium. We would exclude from our consideration the acute gastroptosis which occurs physiologically in connection with the act of digestion, or as the result of overfilled intestines. The gastroptosis which is caused by pressure from above, as through an emphysema or a left sided pleuritic exudate, can, of course, be diagnosed only in patients, the position of whose stomachs had been known to us previous to the occurrence of their pulmonary condition.

The etiological factors of the chronic gastroptosis are so numerous that I shall have to limit myself to the more important. Glenard's view that the primary cause rests in a weakening of the hepatic-colonic ligament has been abandoned so universally that I might be excused for not entering any further upon the merits of his theory. It is acknowledged with nearly the same

unanimity that a congenital predisposition favors the occurrence of a gastroptosis.

This disposition is given by the long shallow paralytic thorax in which the length is out of proportion to its width and depth. Miller who considers a tenth loose rib as a characteristic sign of the predisposition, the enteroptotic habit, calls attention to its resemblance or identity with the structure which experience shows to favor the occurrence of tuberculosis.

Of the other forms it must be stated that they occur nearly always in connection with the displacement of other viscera. An isolated gastroptosis is a pathological rarity and if I continue to use this expression in my paper, I am led by the fact that I shall consider more particularly the effects and treatment of the gastric dislocation.

Of the factors which develop the disposition into a displacement, the most important is the manner in which the body of the female is subjected to pressure and traumatism. The former by ill adjusted corsets, the latter produced by the apparently ineradicable habit of fastening the skirts around the waist. In this manner the tissue of the liver is not only subjected to anatomical changes, but the necessity of escaping from the undue pressure forces it to press the stomach downwards and to the left. It is claimed that the greater strain of modern social conditions is responsible for the greater prevalence of splanchnoptosis. While I am not prepared to deny the correctness of this statement, it appears to me that the condition like others to which the attention of our profession has been called in recent times appears to occur with greater frequency because our teaching and the modern methods of examination permit us to

recognize it at an early stage and more frequently.

Of other factors frequent parturition without the necessary post puerperal care, acute diseases which are likely to produce atony, insufficient and improper nutrition,

tinued mental strain to be of great importance, otherwise I could not account for the very frequent occurrence of this condition amongst our teachers, and I should be under obligation to the gentlemen who kindly consented to discuss this paper to



E. D. aet. 34. Complains of ravenous appetite, pressure in the epigastrium and "belching." X-ray shows lower curvature 1 inch below the umbilicus and stomach moderately dilated. Peristaltic waves very strong and frequent.

inflammatory adhesions, physical and mental over-exertion are probably the most prominent. I believe the influence of con-

give us the benefit of their experience in regard to this point. It is especially in this class of patients that we find the profound

disturbance of the nervous system which is usually associated with marked displacements of the abdominal viscera. In fact in a great many instances the patients come to consult us about a persistent and severe hemicrania or objective and subjective vertigo, palpitation of the heart, tachycardia, presternal pressure and precordial pain, backaches, to mention only some of the more frequent directions in which the nervous disorders manifest themselves. In other cases the digestive complaints predominate, ranging from discomfort after meals to the most excruciating pain in the epigastrium or some lower point, a pain that is usually described with a most vivid and varied eloquence. The appetite is usually lessened, nausea occurs frequently, vomiting very rarely. The motility is not impaired to any appreciable extent and the different views which observers entertain concerning this point find a possible explanation by the different material which served their investigation. I myself was surprised to find excellent motility in stomachs with exaggerated displacement, while I found it diminished in very slight deviations from the normal position. I believe to have noticed that the functions of the intestines had really more bearing upon this point than the position of the stomach and the motility was decreased in proportion to the obstinacy and degree of the constipation which is a nearly constant concomitant symptom of splanchnoptosia. It is of course possible that the atony of both stomach and intestines might be due to the same underlying cause; but I am sure that I have seen cases in which the successful treatment of the constipation was instrumental in restoring the normal tone of the gastric muscle. In addition to these symptoms mentioned we

have that immense and inexhaustible array of complaints which we find in all abnormal conditions of the nervous system partaking at times more of the character of hysteria, at others of neurasthenia and merging not infrequently into the territory of hypochondriasis. It is this constant intermingling of functional disturbances, with evidences of an organic lesion that surrounds the recognition of splanchnoptosia with some difficulties. We have to rely for this purpose upon our objective examination, for the statement of our patients that they have the feeling of some moving body in their abdomen can certainly not be relied upon for the formation of our diagnosis.

Of the means at our disposal inspection will prove of value when we have to deal with a very thin abdomen. In these cases you see not infrequently the lesser curvature bulge forward below an epigastric space that is sunken in; the greater curvature will appear with more or less distinctness within a greater or shorter distance below the umbilicus. Palpation has not proved satisfactory in my hands and it is rare for me to feel a stomach with a certainty convincing to myself. By giving the patient a glass of icewater or a plate of ice cream you will in thin individuals succeed at times in perceiving with your hand a difference of temperature between the area corresponding to the site of the stomach and the other parts of the abdomen.

Percussion of the stomach is looked upon by many as a difficult and misleading method. I beg to state that the difficulties lie only in the differentiation between the colonic and the gastric resonance. Once you learn to appreciate this acoustic difference it is simply a matter of patients to

determine the position of the greater, the lesser curvature, and the pyloric end. By comparing the results of percussion with those obtained by other methods I have been able to convince myself that the findings were correct in the majority of in-

the outlines of the stomach with fair accuracy. Where you fail to obtain it you will succeed after the patient has taken one or two glasses of water.

Insufflation of the stomach with air or CO₂, is a method which I had been in the



A. J. D. aet. 59. For two years pain in the epigastrium periodically and sour belching. No nausea. Vomits at times, vomitus sour. Anorexia and burning in the epigastrium four hours after eating. X-ray shows lower curvature slightly below the umbilicus and prolapse with dilatation of the fundus.

stances. By slight tapping you obtain frequently a splashing sound, the extent of the area over which you obtain it gives habit of employing in former years. I abandoned it because of the discomfort which is caused by it not infrequently be-

cause of the threatening though not fatal effect which I observed in two instances and mainly because the other methods prove sufficient for diagnostic purposes.

Transillumination of the stomach by the introduction of Einhorn's lamp is not objectionable because of any complex element in its use. I found its employment very simple and not at all unpleasant to patients who are accustomed to the stomach tube. But it is not absolutely reliable and for this reason I use it only occasionally as a control of the findings obtained through other channels.

The diagnosis of a displaced kidney, of a prolapsed liver, the evidence of a dislocated colon or a cardiopotosia will aid you in the recognition of the changed position of the stomach which is usually involved in these cases. For the differential diagnosis dilatation of the stomach would come into question most prominently. The size of the stomach which is normal or even subnormal in gastropotosia while increased in dilatation will serve to differentiate between the two conditions. Moreover you find in the latter condition signs of stagnation and fermentation which are absent in simple falling or displacement of the stomach.

The Roentgen-Rays which have revolutionized our diagnostic methods and views in so many other conditions have entered the field of gastric displacements with results so unimpeachable that they promise to rank amongst the foremost means for their recognition. The fact that they necessitate the introduction of a large quantity of bismuth $\bar{3}i$ to $\bar{3}ii$, which by its weight stretches the stomach beyond the normal will probably be remedied sooner or later by some modification of the ray medium.

The prognosis of the condition is excellent as far as the restoration of the normal function is concerned providing of course that it be unassociated with marked atony and dilatation. In restoring the organ to its normal anatomical relations I have not been as successful as some other physicians claim to be. I have seen the position of the stomach improved. The improvement has been even surprisingly marked in some cases, but I have never observed a return to absolutely normal anatomical conditions, in spite of the fact that I have made use of all the therapeutic resources that circumstances placed at my disposal. More important of course, than the curative is the preventive treatment of this condition. It is the duty of physicians to insist upon a long rest after the acute diseases with which children are afflicted and we must not forget that the heart is not the only muscle which is attacked by atony. The pernicious results of burdening muscles with work, which are not equal to it do not find their objective expression in the signs that betray degenerative conditions of the heart, but they exist nevertheless and have undoubtedly an intimate connection with the displacements which form the subject of this paper. In desiring to protect the growing girl from the baneful and sometimes irremediable effects of corsets and skirt-bands fastened around the waist we encounter an adversary, the fashion, which has always come out victorious in the battle waged against it by physicians. The straight-front corset pressing upon the lower part of the abdomen is less deleterious; a corset of the kind advocated and demonstrated by Dr. Gallant should be recommended, whenever the objections to its somewhat complex manner of application and to its expense can be overcome.

The love of sport innate in the American youth and pleasantly infectious to the child of the immigrant, is so intense that there is no necessity of dilating upon the importance of gymnastic exercises during childhood and adolescence. One of the

the time required for this purpose. The tone of the uterus and of the abdominal muscles must serve as the only guide in determining this question. I know that you are confronted by two powerful opponents in trying to fulfil this duty conscientiously.



J. W. W. aet. 42. Complains of epigastric pressure after eating, sour eructations, and nausea, relieved by vomiting of bilious material. Six months ago stomach found at the level of symphysis. X-ray shows lower curvature $3\frac{1}{2}$ inches below umbilicus. Peristalsis sluggish.

most important preventive measures is a sufficient amount of rest after confinement, and there must be no orthodox rule as to

Ideas which the habit of centuries has placed in the category of unshakable convictions, and social conditions which ren-

der it impossible for the patient to carry out your instructions. In spite of that it is our duty to insist upon measures which protect the patient's future welfare and prevent years of misery. If you are compelled to have your patient rise before the normal tone is restored see to it at least that she is provided with a proper support, not the kind of bandage that slides over all parts of the anatomy and is everywhere except where it is needed for protection, but a bandage that supports the lower abdomen in an unmistakable fashion. In addition to these measures all the factors that promote the maintenance of the proper physical and mental equilibrium act in the direction of prevention.

Of curative agencies I consider rest the most important, absolute rest of body and mind in the severe types, and one to two hours of rest after the midday meal in those of a milder character. Where the circumstances of the patient permit of a wider financial latitude a sojourn in a well managed sanitarium of which we have but very few in this country will produce better results than the treatment in the home surroundings. The rest should be combined with therapeutic measures such as the tepid bath, the cold sponge and rub, a short douche to the abdomen, the cold compress and so forth. Careful and mild massage will aid in strengthening the abdominal muscles and in hastening the sluggish travel of food in the stomach and intestines. Electricity in the form of the galvanic or faradic current did not seem to have any other effect than that of a transient suggestion. A mild vibratory massage is somewhat helpful in overcoming the constipation which I mentioned above as being nearly always associated with abdominal ptosis. The most im-

portant factor in combatting the intestinal sluggishness is diet, which cannot be of a schematic character in a condition in which the digestive capacity varies within such wide limits. It is for this reason very desirable and perhaps absolutely indispensable that we ascertain the individual ability of the patient by testing the various functions of the digestive organs.

One fact cannot be emphasized with sufficient earnestness. You will never cure your patients unless you overcome the constipation by other means than medicines. They will improve temporarily under the influence of laxatives, tonics and bromides. After having acquired a tolerance of your prescriptions they will consult another physician and it is nothing unusual for them to consult the whole army of medical men in their locality before they consent to adhere to a treatment which is full of sacrifices and inconveniences, but is the only one promising a permanent benefit. There is, of course, no objection to the use of laxatives until the intestinal muscles have regained their tone, but the perpetual use of them must be discountenanced. It will be impossible for me to enter into the details of the diet required; a few hints will have to suffice. Milk if well borne by the patient, and this is by no means as generally the case as we would be led to suppose by the haste and unanimity with which the profession prescribes this article of food in all digestive disturbances, must be given in small quantities not exceeding $\frac{3}{4}$ pint at a time. It is not so long ago since I saw a physician equipped with a large experience, who was suffering from gastropnoia with frequent vomiting as a prominent symptom of his condition. An inquiry as to his diet revealed the fact that he lived entirely on

liquid food and would ingest a quart of milk at a time. The examination of his fasting stomach showed the presence of a quart and a half of a fluid material with a very low free and a very high organic acidity. The elimina-

improvement has been of a lasting character.

I like cream better which can be given in mashed potatoes, spinach, mixed with carrots, in coca and with desserts. Toast is advisable because it permits ample ad-



C. S. aet. 32. Complains of "bloated feeling" and has frequent eructations. Has constipation alternating with diarrhoea. Left kidney prolapsed to second degree and uterus retroflexed. Reflexes exaggerated. X-ray shows stomach prolapsed $3\frac{1}{2}$ inches. Peristaltic waves strong and regular.

tion of milk and the administration of the proper diet produced an immediate cessation of the vomiting and I believe that the

dition of butter. Bacon is usually useful (but unfortunately unsympathetic to a great many of your patients.) In patients, in

whom the evidences of atony are not marked, the addition of raw fruit, broiled meats, graham bread, honey, etc. will prove useful. Boiled and stewed fruit, apple-sauce, are usually well assimilated even in a weakened digestion. In the majority of cases confided to your care you will have to contend with the fact that fruit and vegetables are nearly unknown constituents of their daily meals; to remedy this defect constant education will be required. The meals will have to be prescribed in such a manner as to allow an accumulation of adipose tissue which will benefit the mesenterical fat in the most marked manner. Stronger muscles and a larger amount of fat will give to the abdominal organs the natural support to which they are entitled. Anorexia, discomfort after meals must be combatted by psychotherapy rather than by medicinal agents which I mention last because they deserve that position in my opinion. Strychnine in small doses with or without the addition of acid hydrochlor is sometimes useful as an appetizer. The same purpose is attained by nux vomica, alone or in combination with the fluid extract of condurango. Bromides and valerianates are required very frequently or a combination of both. Hydrastis canadensis which has been recommended by Dr. Fuhs has been prescribed in some cases of splachnoptosis with atony with good results. Of laxatives only the mildest should be used when necessary. Cascara sagrada, phenolphthalein and Carlsblad salt serve their temporary purpose best I believe. The mechanical treatment ought to be no more in the line of dogmatism than all the other measures to which I alluded. We must convince ourselves if they really support the abdominal organs not only in the horizontal but in the perpendicular posi-

tion as well. They share with laxatives the character of but temporary expedients and we should use them only until the normal equilibrium is obtained. While they are worn we must insist upon proper exercises of the abdominal muscles lest we injure them more than we aid them by the bandage or belt.

The period of gestation affords at least the position of a temporary aid. There is no doubt about it that it elevates the transverse colon, stomach and kidney, and you have frequently heard young women give expression to the conviction that they never felt better nor had a better appetite nor a more regular function of the intestines than during the period of pregnancy. Unfortunately this improvement is but exceptionally of a lasting character owing to a general atony or special pelvic conditions. If we are consulted about the advisability of marriage, and this happens occasionally, though people act as a rule only on the advice that is congenial to them—it is our duty to weigh the possible advantage of the temporary support that would be afforded by pregnancy against the probable disadvantages that would be entailed in an individual who is afflicted with muscular atony and unfavorable pelvic measurements.

Finally I beg to allude to those cases in which splachnoptosis is associated with lesions in other parts of the body, particularly with affections of the pelvic organs. Leaving aside acute suppurative processes in which operation is indicated as a matter of course, I believe it is the consensus of conservative gynaecologists that rest and proper general treatment should be tried before resorting to the knife. In those cases we notice frequently not only the dis-

appearance of chronic exudates and an improved condition of the ovaries but synchronously a great improvement in the displacement of the abdominal organs. Where we have to deal with splanchnoptosis and the results of traumatism to périn-

tained and we have to solve the question, whether we should postpone the operation until the abdominal condition has improved or whether we should attempt to undertake the treatment of both conditions at the same time. Social considera-



E. D. aet. 42. Severe burning in the epigastrium, worse after eating. Gastro-enterostomy (Posterior) $1\frac{1}{2}$ years ago, gastro-enterostomy (anterior) 6 months ago. Lower curvature placed $1\frac{1}{2}$ inches below umbilicus. X-ray shows seat of operation (X) and lower curvature $2\frac{1}{2}$ inches below umbilicus. No peristaltic waves below seat of anastomosis.

eum and cervix the plastic operation will not infrequently remedy the higher condition; without it a cure can never be ob-

tions and the individual equation will bring these influences to bear upon the solution of the question.

In conclusion I beg to apologize for the rather fragmentary character of my paper. In my attempts to concentrate an immense subject within a very narrow frame and of bringing it near to the understanding of the general practitioner, I have made it perhaps uninteresting to the specialist and yet too learned for the non-specialist. I am in hopes, however, of seeing some points brought out in the discussion which I failed to mention or to emphasize in this paper.

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NASAL OBSTRUCTION IN CHILDREN.¹

BY

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The newborn infant ignorant of the wrong and abnormal way of breathing through the mouth, needs with its first breath a free

nasal passage. As the nursling often dies from suffocation and starvation brought about by its inability to take nourishment properly, the growing child is also endangered by the pathologic rhinological conditions acting in a similar way. The importance of this fact was only recognized in the last decades.

To understand the pathology of nasal obstruction in children we must bear in mind that the nasal cavities and nasopharynx in the growing child are very small, and that they may easily become smaller or totally occluded by swell-

ing of the adjacent spongy and lymphoid tissues, as occurs in the turbinates and in the so-called "lymphatic ring" (adenoids, lymphatic cushion of the eustachian tube, lingual and faucial tonsils). In addition to the above the nasal passages may be partially or totally obstructed by congenital or acquired deformities of the osseocartilaginous framework of the nose. For convenience I will classify nasal obstruction into two varieties.

I. Soft nasal obstructions.

II. Hard nasal obstructions.

In the first group I include those cases of obstruction resulting from acute and chronic catarrhal conditions of the nasal mucosa with its underlying spongy tissue and of the lymphoid structures, while in the latter I include the forms of obstruction accompanying the congenital and acquired pathological conditions of the osseocartilaginous framework.

In acute rhinitis we have an inflammatory condition of the nasal mucosa with a congestion of the underlying spongy tissue, accompanied at first by a watery and later mucopurulent secretion.

Acute rhinitis, whether primarily due to cold, infection, chemical, thermal or mechanical influences, or whether secondary as a premonitory symptom of some oncoming disease (as measles, pertussis, influenza, bronchitis, etc.) or as a mere symptom of diphtheria, hay fever, etc., causes a definite diminution in the size of the nasal cavities. Therefore in the nursling an acute rhinitis may bring about a marked interference with the function of breathing and nutrition which in extreme cases may lead to sudden death and in the growing child may have accompanying it for a short time all the symptoms of nasal obstruction. Hence

¹ Read before the Eastern Medical Society of New York City, on December 11th, 1908.

in all cases of nasal obstruction in children we must consider some *acute* condition as being responsible for the existing symptoms. Thorough cleansing of the nasal passages followed by cocainization will decide whether the obstruction is due to an acute or chronic condition.

Repeated attacks of acute rhinitis may lead to a chronic rhinitis in which the nasal obstruction may be due either to the excessive secretion and crust formation or to a chronic congestion of the spongy tissue (hypertrophied turbinates).

The chronic rhinitis occurring in those with a scrofulous diathesis has always accompanying it a mucous secretion that results in crust formation and excoriations around the nostrils. This form of rhinitis may be easily recognized on account of its frequent association with scrofulous ophthalmic and glandular affections.

The chronic rhinitis occurring in hereditary syphilis is accompanied by a thick sanguinopurulent discharge with crust formation. On this account the suckling suffers from "snuffles" and nursing difficulties.

In cases of chronic rhinitis in children we must always consider the possibility of foreign bodies or rhinoliths as being the causative agents and we must suspect their presence when there is a purulent and foul discharge from one nostril.

In rhinitis with a marked chronic congestion of the turbinates we may observe most of the characteristic *symptoms of nasal obstruction*, as mouth breathing with all its bad sequelae, restless sleep, snoring, hawking, coughing, night cries, lack of mental concentration, frontal pressure, underdevelopment of the chest, vertigo, etc. And therefore the presence of the above enumerated symptoms does *not*

necessarily always point to adenoids as being the causative factor.

Every period of medical science has its fascinating catchwords. Those of the present are appendicitis of the adult and adenoids of the youth.

How many healthy appendices and how many strips of pharyngeal mucous lining supposedly adenoids may have been victims of bold science! When I as a rhinologist take this view of objection to the worldwide eagerness of the medical profession to operate almost every case with "adenoid symptoms" for the removal of the adenoid growth, you may believe that my reasons are founded on many practical experiences. I examine yearly at the Mount Sinai Dispensary for Nose and Ear several thousand children and to support my standpoint I will quote later the statistics that I have made in the last twelve months.

It being faulty to consider the finding of lymphoid granulations on the pharyngeal wall as pointing always to the presence of adenoids, I have made it a routine practice in the dispensary to examine carefully not only the oropharynx but also to examine by reflected light the nose and by digital exploration the nasopharynx of every child, although it requires patience and time to carry on this method in a crowded clinic.

The present view as to the treatment of adenoids is their total removal; the same attitude was formerly maintained by the profession towards treating affections of the thyroid gland, which when hypertrophied and causing mechanical and general symptoms in a similar way to the adenoids, was completely extirpated at a time when our knowledge of its function was very scanty. But today with our advanced

knowledge of *cachexia strumipriva* even the most daring surgeon is conservative in preserving a portion of the gland. Perhaps later on when the adenoid fury (*furor adenoidicus*) will calm down and we learn to recognize the symptom complex of *cachexia adenoipriva*, the physicians will be more conservative in operating an *organ the function of which is still unknown*.

It is a common experience among rhinologists in dispensaries to see after adenoid removals frequent recurrences of the growth and still more of the adenoid symptoms. This led me to examine very carefully the nose of every child that returned to the dispensary several months after it was operated and I noticed that in most cases where *adenoids recurred* or the adenoid symptoms persisted the primary cause of "adenoid symptoms" was either a congenital or acquired deformity of the nasal osseo-cartilaginous framework, or hypertrophy of the turbinates and following upon this there results a hyperplasia of the adenoid tissue due to the suction action behind the seat of obstruction. Therefore in treating this kind of nasal obstruction we must direct our attention to the *nasal condition as the primary cause* and not so much to the adenoids which occur only secondarily. (We must certainly admit that there are many cases of *congenital hyperplasia* of the adenoid tissue.) I saw at the Mount Sinai Dispensary an infant of one month where I had to remove the adenoids to enable it to take its nourishment from the breast. In such cases of marked hereditary hyperplasia of the adenoid tissue the nasal cavities themselves may be totally free and the existing symptoms of obstruction are then naturally

due to the adenoids, the *removal* of which is then the only procedure for relief.

Whoever is acquainted with the anatomical landmarks of the nasopharynx will easily comprehend that nasal breathing is only interfered with by adenoids when they hang down over the margin of the choanae. In these cases of noncongenital adenoids with a coexisting primary nasal defect we are justified in trying to relieve the symptoms by removing that part of the growth overhanging the choanal margin ("choanal adenoids.") and preferably if possible through the nose with special instruments. In many cases presenting adenoid symptoms I noticed soon after proper treatment of the nasal condition that there followed spontaneous shrinkage of the adenoids, due to the air pressure behind the seat of the former stenosis being returned to the normal.

The hypothesis of hereditary transmission of the adenoid diathesis appeals to me to be incorrect in many cases for the reason that I often saw hypertrophies of the turbinates existing in several members of the same family, which primarily was the transmitted condition. I recollect a family where both parents and all their four children had hypertrophied turbinates, two of them with adenoids; in these two children I reduced the size of the hypertrophied turbinates and following this the "adenoid symptoms" disappeared, and thereafter I observed that the size of the adenoids had diminished of themselves.

Of the 2064 children I examined this year in the Mount Sinai Dispensary, 600 had adenoids and of these only 140 had no nasal obstruction whatever. Of 460 that showed adenoids combined with nasal obstruction, 150 were due to hypertrophy of the turbinates, and 100 cases to the

hypertrophy of the inferior turbinate only.

It is a firm belief among the profession that the removal of adenoids is *always* followed by an amelioration of the symptoms of a coexisting suppurative otitis media; but after having seen in many dispensary cases after thorough and even repeated curetting of the nasopharynx failure to obtain a diminution of the ear discharge, one must be somewhat sceptical about the influence that adenoids exert in every case upon an existing suppurative or catarrhal condition of the middle ear. One who is familiar with the anatomy of the upper air passages can easily understand that the hypertrophied posterior ends of the inferior turbinates are often more intimately connected with the pharyngeal opening of the Eustachian tube than are the hypertrophied adenoids. Where the tubal opening is irritated or even occluded by the hypertrophied posterior ends of the inferior turbinates, which in most cases can be detected by careful digital examination of the nasopharynx, the removal of the turbinal ends by special instruments is indicated to ameliorate conditions of the middle ear. According to my statistics out of 326 cases of chronic suppurative otitis media, 50 had hypertrophied posterior ends of the inferior turbinates without adenoids, 80 together with adenoids, while only 46 had adenoids alone, in the remaining number the ear affection being uncomplicated.

I will not take up here the very interesting subject of the *relations of adenoids to tuberculosis* as I will in the near future read another paper devoted exclusively to that discussion. I would like to mention in this connection that of the many hundred cases of phthisis that I have examined in the German Hospital Tuberculosis De-

partment, I found adenoids present only in a small percent of cases while almost every case showed some deformity of the septum or hypertrophy of the turbinates. An important factor in the *prophylaxis* against tuberculosis in children I believe is the relief of *nasal obstruction* if present, and to instruct the patient to have those living in the same apartment go to a physician for examination and treatment of any pathological rhinological conditions.

Such an institution as a City Board of Health is almost entirely unheard of abroad. We must commend the valuable work of an organization of this sort, especially that branch which concerns itself with the medical inspection of the school children. But unfortunately most of the school physicians on account of lack of time only make a superficial diagnosis and look only into the throats of the children and neglect the use of the headmirror and the nasal speculum and even do not make a digital examination of the nasopharynx. And so it occurs quite frequently that children are referred to Dispensaries with a card from the school physician bearing the diagnosis of hypertrophied tonsils and adenoids where the adenoid symptoms were due to some pathological condition in the nose, the adenoid growth not being large enough to produce them.

Again the Dispensary physician who on account of lack of time may make a hurried and incomplete examination, abides by the diagnosis of the school physician and subjects the child to an adenectomy instead of directing his attention to the primary seat of the trouble in the nose.

I would therefore suggest that school medical inspectors in order to increase the efficiency of their work should examine the nose of every child with adenoid symptoms

by means of the headmirror and nasal speculum and its nasopharynx by digital exploration, in order to direct the attention of the dispensary physician to the primary seat of the trouble.

A few cases of nasal obstruction have shown very enlarged tonsils to be the sole causes, while most cases of nasal obstruction with coexisting enlarged tonsils have either adenoids or some nasal defect as the most important causative factor.

In the group of soft nasal obstructions I also include the neoplasms as dermoid cysts, lymphosarcoma, fibrosarcoma and chondroma. I saw in a six years old child the right nasal cavity totally occluded by a chondrosarcoma springing from the cartilage of the ala nasae.

I would like to classify the *hard obstructions* into the following varieties:—

I. *All grades from congenital narrowing till complete occlusion of the nasal cavities.*

II. *Septal deformities. a. Congenital (deviation and spur). b. Acquired (subluxation, fracture, etc.)*

III. *Asymmetrical development of the bones at the base of the skull and the upper jaw.*

Congenital deviations of the septum are so common in civilized nations that they may be taken as a criterion of one's position in the stage of civilization; yet every savage does not present a straight septum.

According to the results of the different writers the following percentage of septal deviations are obtained:—

Zückerkandl	.....	37.8%
Delavan	.....	50 %
Mackenzie	.....	76 %
Jarvis	.....	81 %
Sedziak	.....	83 %
Simanskey	.....	95 %
P. Heymann	.....	96 %

According to my own statistics of the last year I found 3823 septal deviations and deformities in 4400 cases examined.

To explain the frequency of septal deviations in the civilized races many theories have been advanced as causes among which are the following:

(1) Increase in the cranial development.

(2) The mingling of the races.

(3) The progressive atrophy of the olfactory apparatus.

(4) Gradual increase in the inflection of the angle of the face in its anterior posterior direction.

(5) Increasing difficulties and extreme prolongation of the parturient period in modern women, which subjects the infant's nasal region to extra pressure. Most physicians take it for granted that septal deviations occur only in the adult, especially when writers like Walker and Zuckerkandl affirm not to have met septal deviations in children, the former not under the age of 4 years, the latter not under 7. This was my opinion too, before I made it a routine practice to examine every child's nose by means of the headmirror.

Among the 2064 children—499 under 4 years of age, 969 under 7, the remaining number between 7 and 15—I examined the last year in the above mentioned way, 1600 had deformities of the septum, of these 1100 had both septal deviations and spurs, 324 septal deviations alone and 176 spurs alone. Among the 1600 children with septal deformities, 342 were under 7 years and 91 under 4 years.

I would like to emphasize the importance of early recognition of congenital or acquired deviations of the *septum* in children and their prompt *operative correction*, whenever they interfere with the normal

function of nasal breathing. In performing such operations in children it is even of greater importance to be conservative in removing the deviated portion of the septum than it is in the adult. To delay such condition until the child grows older, predisposes it to the development or if already present to hypertrophy of the adenoids and all its accompanying ill effects. The vomer is composed of two parallel laminae which become blended after puberty and often become only partly adherent or in extreme cases remain entirely distinct (double septa). The majority of the congenital deformities of the septum result from either hypertrophy or lack of development of one or both of these laminae of the vomer, while the acquired abnormalities of the septum follow trauma, as a fall or blow on the nose, and as I have been able to confirm from a study of many cases, constitute 30% of all the septal deformities. Concerning the resistance of the septum it is important to know that the anterior triangular third remains cartilaginous throughout life and even in the congenital form yields easily to pressure influences. The upper third of the septum, the perpendicular plate of the ethmoid, ossifies about the first year after birth, whereas the lower third, the vomer, begins to ossify in the eighth week of fetal life and is completed only after puberty. At the junction of the triangular cartilage and vomer we find that spurs mostly develop of the cartilaginous variety. The exostoses and ecchondroses in other locations of the septum may become eburnated. It is self evident that extreme hypertrophy of the turbinates may produce in the child corresponding curvature of the still flexible septum, while ordinarily the septal deformity acts as the pri-

mary cause in bringing about the nasal obstruction. In those cases of nasal obstruction brought about by septal deformities, the septal mucous lining is of great importance. Over the seat of the deviation and especially over a spur the mucous membrane may become swollen even in a mild acute rhinitis so that the turbinates may be encroached upon, and in this way there may follow even total nasal obstruction. After repeated catarrhs of the mucous lining covering the above locations there may develop a chronic hyperplastic condition causing a thickening which I would like to designate as a *septal turbinate*. After co-cainizing a spur I have noticed in many cases that its size had markedly diminished which I believe is due to such septal turbinate as just described.

I have seen many children where after removal of small spurs covered by a septal turbinate greater improvement of the adenoid symptoms was obtained than after repeated adenectomies, the same applies to septal curvatures over which have also developed large septal turbinates.

It is self evident that such an operation as the submucous resection of the septum or the removal of a spur in children can usually be performed under general anesthesia only. And even in my dispensary practice I prefer when time permits, this successful method of treatment. In most text books a high arched and narrow palate with bad and closely set teeth are mentioned as secondary symptoms to hyperplasia of the adenoid tissue. I found a high arched and narrow palate associated with bad and closely set teeth in 92 children who had no adenoids at all but had some nasal deformity. In the 152 cases where adenoids were combined with the above mentioned conditions of the upper jaw, I mostly found

the nasal obstruction as the primary cause of the adenoids. The coexistence of adenoids with high and narrow palate may therefore be easily explained by assuming that the *upper jaw condition is congenital* and causes septal deformities with or without secondary hypertrophy of the turbinates and these in turn may be responsible for the *suction hyperplasia of the adenoid tissue*.

In the group of hard nasal obstructions I would also include the so-called "inversional germ of the upper incisor teeth," where an eruption takes place through the floor of the nose into the nasal fossa.

In concluding my paper I would like to say that I do not make the general statement that adenoids should not be interfered with. *They should only be treated if there is a special indication to do so.* I believe it would be advisable in adenoids occurring secondarily to some nasal defect that the primary nasal obstruction be relieved first, following upon which a spontaneous shrinkage of the adenoids will occur if they do not overhang the choanal margin. In cases of congenital adenoids and in other cases of adenoids with fibroid changes where a shrinkage is not apt to follow so easily, an *adenectomy* performed in the usual way is indicated.

In dispensary practice where we operate at the rate of 25 children an afternoon for the relief of the adenoid symptoms, an adenectomy will be the only available method and is justifiable where the *diagnosis of adenoids* is made by means of the previously mentioned methods. Where there are sufficient skilful assistants in the dispensaries who are willing to spend more time on their work, the *primary nasal defect*, if present, should always be properly treated first; in this way *unnecessary adenec-*

tomies and recurrences of the growth may be avoided.

Perhaps later on when we will find that a straight septum and palate are just as essential to the development of the child's organism as is a straight vertebral column, we will be called upon to discover some small orthopedic apparatus for prevention or bloodless correction of deformities in the soft unossified nasal framework of the nursing, and then the orthorhinologists will suggest prophylactic measures for the occurrence of acquired adenoids. It is of course self evident that a very valuable measure in the prophylaxis of adenoid growth is the *prevention of nasal catarrh* and its immediate and proper treatment. In this connection I would like to quote a communication that I received from Dr. A. Jacobi who was prevented from being present to take part in the discussion of this paper.

"You intend to consider the subject of adenoids; permit me to suggest to you some practical points. Nasal passages kept clean and free and treated very early for catarrhal conditions, either do not develop adenoids or have them developed very slowly and limit the size of the growths. Two daily saline irrigations (6:1,000) with a nasal cup heal slowly catarrhal conditions merely through cleanliness. Perceptible enlarged lymphnodes disappear with this treatment and moderate nasal obstructions may also improve without operative interference. This does not exclude surgical treatment in certain advanced cases. Recurrences are not always due to imperfect operations but to careless after treatment. Our operators feel contented with the success of their operations when the hemorrhage ceases. What is usually neglected is the simple

and valuable after treatment as before described. A cup only, no douche, no atomizer, no dropper!"

Let the school physicians use the terms spur, deviated septum and hypertrophied turbinates and the public will be informed that *all diseases in children are not caused by adenoids* and let the general practitioner refer those children with "adenoid symptoms" to the rhinologist for a more detailed rhinopharyngeal examination to determine if the *correction of some primary nasal defect will avoid unnecessary adenectomies.*

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DISCUSSION.

Dr. Felix Cohn said that while he would heartily congratulate Dr. Glogau for the interesting manner in which he presented the subject, he regretted to say that so far as Dr. Glogau's deductions were concerned, he could not agree with them. Before referring to the views on nasal obstruction and adenoid vegetations expressed in the paper, Dr. Cohn said he thought it would be simpler to present the subject cursorily. Dr. Glogau had mentioned that nasal obstruction in children was due either to the obstruction caused by the soft tissues, or, as he termed it—the hard tissues—the septum. As the nasal obstruction in children naturally varies with the age of the child, it would hardly be possible to place a child of two years of age, in the consideration of the subject, in the same category with a child of twelve years. As far as the changes in the soft tissues of the nose are concerned—that is, anomalies of the turbinates, they are extremely rare in young children. As a matter of fact, the conditions which usually are found are congestive. Dr. Cohn thought that the posterior hypertrophies referred to in the paper as a frequent complication were not in reality posterior hypertrophies such as would be found in adults, but were enlargements of erectile tissue. While there are a few suppurative conditions in the nose, such as suppuration of the accessory sinuses for instance, which might cause these congestive disturbances, they are comparatively rare, the main cause for the nasal obstruction being due most frequently to the presence of adenoid vegetations. While it is true that one condition maintains the other in a sort of vicious circle, by removing the adenoid vegetations the nasal obstruction almost entirely disappears, unless the causes are as above mentioned.

With regard to the question of apparent posterior hypertrophy, which Dr. Glogau wished to treat intra-nasally, the conditions would be the same; it would disappear upon proper removal of adenoid vegetations.

Regarding anomalies of the septum, Dr. Cohn also disagreed with Dr. Glogau's statements. Deviations or even exostoses of the septum, though giving a great deal of trouble, are comparatively rare conditions, and do not frequently require interference in children. As a matter of fact, one hardly ever finds a straight septum. The exostoses is merely minimum. The development of the septum occurs in later years, almost at the age of puberty. The straight septum, apart from chromatic conditions, which could not be considered as they are accidental, in young children becomes deviated on account of the various changes about the whole osseous structure of the face; changes in the upper maxilla, changes about the nasal bones, the vomer, so that being hindered from developing in a vertical direction, it enlarges, becomes curved and otherwise changed. Instead of advocating treatment of nasal obstruction in children, intra-nasal treatment of a surgical kind should be reduced as much as possible, while cauterization of the nose with trichloroacetic acid or the galvano-cautery should be absolutely avoided, as dangerous procedures. Exceptions occur; occasionally one finds a flabby hypertrophy in younger children, and these of course should be dealt with. The main causes of nasal obstruction in children are adenoid vegetations and hypertrophied tonsils. Dr. Cohn thought Dr. Glogau stood alone when he advocated only partial removal of adenoids, as it has been the endeavor of most laryngologists to remove adenoid growths as thoroughly as possible, every practitioner having met with cases where children were almost cured over night, the nasal obstruction entirely disappearing after a thorough removal of the adenoid vegetations. If enlarged adenoid vegetations caused nasal obstructions, as an attempt had just been made to show, then further discussion of Dr. Glogau's procedure was almost unnecessary. The methods of removing adenoids piecemeal from the nose were methods which were obsolete, laryngologists having required fifteen or twenty years to emerge from them. They were used by Lange and Meyer twenty years ago, and all remember the piecemeal operations with the Lowenberg forceps. Of course if nasal obstruction is due to suppurative conditions of the accessory sinuses, naturally the removal of adenoid growths will not cure nasal catarrh. While thorough removal is occasionally followed by recurrence, it is only in from three to seven per cent. of cases. How would it be possible to prevent recurrence and cure nasal obstruction in children by removing adenoid vegetations in the manner suggested by Dr. Glogau?

Dr. I. Grushlaw said that while Dr. Glogau might be one of the advance guards in protesting against this adenoid fury, he thought Dr. Glogau too radical; that he had stated that adenoids were secondary to nasal obstruction—that if the obstruction were removed the adenoids would disappear. In his own experience he had found that in cases of narrow noses, with high arches, adenoids which one

would expect to be very large were very small; that if the adenoids were removed, the nasal hypertrophy would disappear. He believed that adenoids should be removed entirely or else there is recurrence of the growth and it becomes necessary to operate over and over again. A certain Englishman had suggested breathing exercises for the treatment of adenoids, claiming that if the air passed through the adenoids, they disappeared.

While all doctors agreed on marked cases of adenoids, there were cases where the diagnosis was not so easy. He himself had a case where he operated on adenoids, and another doctor said that they were still there. Having re-examined the case, Dr. Grushlaw failed to find any. The only way it could be explained was that probably some little adenoids had become congested during a cold and were mistaken by the doctor for real adenoids.

Dr. Grushlaw thought Dr. Glogau wrong in claiming that infants should not be operated. He thought infants should be operated as quickly as possible, before the adenoids left a marked effect on the system. While Dr. Cohn claimed that tonsils sometimes produced enlargements of adenoids, he failed to see how the tonsils could have any such effect. He could see how the tonsils could become enlarged by reason of adenoids. Through nasal obstruction the pharynx loses its resistance to microbic invasion, and the tonsils undergo repeated inflammations and become hypertrophied. He found that in Gouverneur Hospital there were more cases of marked adenoids than anywhere else, because the hygienic surroundings were so poor that adenoids seemed to thrive.

Dr. S. J. Kopetzky said that he regretted that he had to disagree in a great measure with the sentiments expressed in the paper of the evening. He could conceive of no rhinologist so negligent as to submit a child to operation for adenectomy if no adenoids were present. He thought there was certainly negligence somewhere if children were operated upon, as Dr. Glogau reported, three or four times for adenoids where none existed.

Regarding the theory of partial adenectomy: He held that as an absolute mistake. If the doctor remembered, there was a report published some years ago in the *Archives of Laryngology* (Fraenkels), by Dr. Merkel, in which he gave results of the examinations of recruits to the German Army with regard to the presence or absence of obstruction in the nose in their relation to the question of the presence or absence of adenoids, then he would see that his theory that nasal obstruction produced adenoids was not founded on fact. In children, where pharyngeal space is blocked, an engorgement of the inferior turbinate takes place, due to its disuse as a part of the respiratory apparatus. While this engorgement obstructs the nose, it is not a true hypertrophy of the turbinal tissue. He himself had found that usually upon the removal of the adenoids and the proper treatment of the tonsils, the engorgement subsided and the nose became cured. He did not favor the correction of septal deformi-

ties among infants and young children, with the exception of those due to traumatism. Regarding traumatism, he wished to say that it would be well if the rhinologist or the surgeon would treat nasal traumatism immediately after its occurrence. The usual procedure of placing cold applications and external supports, and waiting until the so-called swelling went down, leaving the damage in the inside of the nose until some subsequent period, has been the cause of many nasal obstructions in the young.

If, on the contrary, besides the local measure above indicated, the internal damage be corrected at once and proper supports placed on either side of the septum, the chances of a permanent nasal deformity, or obstruction resulting from such an injury, would be greatly lessened. He only advocated early operative procedure in traumatism cases. He did not wish it understood that he decried the removal of nasal polyps, or any other surgical measures in the nose of the young, where urgent symptoms demanded attention; he only referred to the so-called deformities which impeded nasal respiration. The treatment of the turbinates and the naso-mucous membrane should be palliative, removing the adenoids if they exist, and treating the tonsils.

Regarding the proposition in Dr. Glogau's paper that there were clinics where children were treated, in which they were too busy to give the proper time to rhinoscopic examination, Dr. Kopetzky wished to state that he would gladly extend to Dr. Glogau the courtesies in more than one institution of which he had knowledge, wherein no child was submitted to operation without a thorough rhinoscopic and physical examination, and where no operation for adenoids was undertaken unless the operating surgeon was cognizant of the presence of adenoids in that case.

Dr. H. Jarecky said that while he believed adenoids must be removed in toto, yet he agreed with the writer in the fact that patients presented themselves for re-operation who had not been cured as they claimed. These cases are not always due to a faulty operation, but because, as the author in his paper suggested, trouble existed elsewhere.

The laity, and, to a certain extent general practitioners, consider mouth breathing and snoring a diagnosis of adenoids. But these symptoms may be due to various other conditions, such as deformities of soft or hard palate, diminution in size of nostrils, distortion of cervical vertebra, etc., or to the constitutional diseases such as lymphatism, tuberculosis, syphilis, etc. They may also be caused by acute rhinitis, disturbances of digestion in infants, diphtheria, etc. These patients when operated for adenoids have not been cured. The urine should also be carefully gone over. The patient should be examined carefully and it be noted whether the cause of the obstruction be in the nose, throat, teeth, tonsils, etc.; then one can intelligently treat, and, if possible, cure the case.

Dr. A. Hymanson said that in dispensaries, in the limited time given to treat such cases

in children, the chiefs were too hurried and their assistants over-zealous to operate. The children were often ill besides having enlarged tonsils, and the doctors were doing a great deal of harm by operating on sick children. The proper thing to do would be to examine the children, taking their temperature and respiration. He had seen cases operated upon where the child had stiff neck, or rheumatism, and in one case typhoid fever.

TWO CASES OF PERNICIOUS ANAEMIA, WITH REFERENCE TO INTESTINAL AUTOINTOXICATION AS A CAUSATIVE FACTOR.¹

BY

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Case I:—Pernicious anaemia with "Hour Glass" stomach treated by Colon Irrigation.

Patient, A. Di B., was a cigar maker by trade, born in Italy, 44

years of age. He entered the Washington Heights Hospital, Oct. 16, 1907, with chief complaints of indigestion, palpitation and dyspnea. His personal history showed him to have had syphilis and gonorrhea. He drinks in moderation and his habits have been regular.

Previous history. He did not remember any diseases of childhood and was not ill up to two years ago.

Present illness began about two years ago with a bronchitis which lasted four months for which he received dispensary treatment without much relief. He was then seized with a very severe diarrhoea having from 10 to 12 movements a day. He had lost some weight and noticed a

peculiar greenish-yellow color to the skin, had bleeding from the gums and some blood in his stools which were black. He had spots before the eyes and at one time was totally blind for a month and a half. He also suffered from palpitation of the heart. This marked the beginning of the symptoms of the disease typical of pernicious anaemia.

He was six weeks in other hospitals and improved up to three months before admission when the symptoms returned with palpitation and dyspnea.



Physical examination on entrance into the hospital showed a picture characteristic of a severe anaemia which proved to be of the pernicious type. The skin was of a greenish yellow color, with areas of leucoderma, the mucous membranes pale, the sclerae of a greenish yellow tint, the pupils normal. There were evidences of a stomatitis, the tip of the tongue bright red and the edges raw. The inguinal glands were enlarged. The heart showed a hemic murmur and there was a general diffuse pulsation of the larger blood vessels. The spleen was palpable.

The blood examination showed:

red blood cells	2,590,000
leucocytes	12,000
haemoglobin	50%
index	I.

The differential leucocyte count showed:

polynuclear neutrophils	51 %
large mononuclear leucocytes	9.5%
lymphocytes	39.5%
eosinophiles	0. %

¹Read before the Pathological Society, April 8th, 1908.

Blood smears showed a preponderance of megalocytes, microcytes, marked poikilocytosis, a few megaloblasts and absence of rouleaux; a picture typical of pernicious anaemia.

The treatment at first was rest in bed, milk diet and tincture of ferric chloride in egg albumen. Analysis of gastric contents showed absence of free hydrochloric acid and of lactic acid. The marked symptoms while in the hospital were fullness and pain in the epigastrium, vomiting, diarrhoea, with offensive odorous stools. The stools at times contained milk curds and later blood but no parasites. He had a cough, pain in the chest and dyspnoea, with signs of a general bronchitis. The sputum contained no tubercle bacilli (two examinations.) The urine averaged a specific gravity from 1020 to 1025 and contained frequent traces of indican.

The patient's condition grew worse and he complained so of the disagreement of all medicines that all drugs were stopped with the exception of an occasional dose of salol.

The old theory of the necessity of iron was here abandoned as there was already an excess of free iron in the system. It was decided after this to treat the case as one of intestinal auto-intoxication.

Colon irrigations were begun on October 23rd, normal saline solution at 112 deg. F., one gallon, Kemp's reflow tube, once a day.

The stools were then very foul, containing blood and undigested food. Quite a marked improvement in the general condition of the patient then began and four days later he was out of bed. He became however very irritable and objected to everything.

Gastro-intestinal symptoms still con-

tinued with flatulence, pain in the epigastrium and an occasional green stool, diarrhoea alternating with constipation. The only treatment from now on was colon irrigations and an occasional dose of calomel.

The blood examinations showed with intermissions a gradual increase in the number of red blood cells, an increase in the percentage of hemoglobin, and an increase in the percentage of polynuclear leucocytes. Very few eosinophiles were found. The indican in the urine disappeared.

During the last week in November, the patient grew steadily worse with continued pain and distress in the epigastrium and the chest showed signs of a pleural effusion, pulmonary congestion and the sputum was blood tinged. The feet and ankles became edematous and he had cough with bright red hemoptyses. The return flow from the colon irrigations was almost black.

The temperature during the course of his illness was normal most of the time but rose irregularly to 102 deg. F. during the last ten days. Just before death on Nov. 29th, a subconjunctival hemorrhage near the pupil of the right eye occurred.

The following is a brief outline of the principal autopsy findings. Hydrothorax, left side. Hypostatic pneumonia. Hydropericardium. Hyperplasia of the lymphoid follicles of esophagus. Large pale, fatty and dilated heart (right side). A small cyst in a papillary muscle of the left ventricle. Extensive fatty degeneration of the intima of the large blood vessels. Atrophy of the bone marrow of the ribs and vertebrae. Large dilated stomach with two marked constrictions, nearer the pyloric end, giving a triple sacculated ap-

pearance to the organ. The mucosa of the stomach shows microscopically an infiltration around the glands of round cells and and fibrous tissue with a desquamation of the glandular epithelium.

Chronic interstitial splenitis,—the spleen enlarged to $2\frac{1}{2}$ times the normal size, its color slightly darker than normal. Chronic interstitial hepatitis with fatty degeneration of the cells. Chronic interstitial pancreatitis. Chronic parenchymatous nephritis. The intestine was congested and had dark greyish contents, but no parasites nor ova.

Microscopical examination of the bone marrow from the shaft of the femur showed a large number of nucleated red cells. There were approximately: Megaloblasts, 24%; normoblasts 51% microblasts 25%; a diminished proportion of marrow cells and an almost total absence of eosinophiles and fat cells.

Case II. A. M. D., woman, 55 years old, admitted to Washington Heights Hospital June 21, 1907. The patient's history shows a long period of constipation with much gastric trouble and attacks of "biliousness." She had had no bad habits; no history of syphilis.

The present illness began gradually on March 21, 1907, while at housework became exhausted and entered a "home." Her chief complaints were weakness, vomiting and constipation. Physical examination was that of a severe anaemia.

The blood examination showed:

red blood cells	.....1,940,000
hemoglobin	..... 26 %
index	..... .75%

The leucocytes were 6,200 and 69.5% polynuclear neutrophils. There were a large proportion of megalocytes with a few microcytes, poikilocytes and a polychroma-

tophilia. No nucleated red cells seen at first.

The special features in her case were flatulence, vomiting, the presence of a few blood cells in the vomitus, and constipation; extreme weakness, offensive feces containing undigested food and red blood cells. A few hyaline casts and red blood cells were constant in the urine and the amount of indican varied. There was marked brownish pigmentation of the skin with a general desquamation. Iron and arsenic were given for the first month.

On the theory of intestinal auto-intoxication colon irrigations were begun July 23rd and continued for ten weeks. The patient improved and in three weeks was up and around the ward. Her flatulence disappeared. The hemoglobin steadily rose to 50% and the red blood cells increased slightly in number to 2,000,000, the nucleated reds disappeared together with the polychromatophilia. The patient became however, very nervous and irritable. She was easily excited. One evening on the admission of an insane patient into the ward, she became very much excited, seized a nurse and bit her in the lip. She was then transferred to Bellevue, where unfortunately all trace of her was lost.

On July 21st there were enormous numbers of normoblasts and quite a few megaloblasts, all of which later disappeared.

Conclusions. The predominating symptoms in both these cases were not only those of a pernicious type of severe anaemia but also marked gastro-intestinal disturbances.

Case I started with a severe diarrhoea and acute indigestion, flatulence, pain and discomfort in the stomach and bowel and undigested food in the stools. A severe

glossitis with marked redness of the tip of tongue was suggestive of impaired functioning of the intestine.

Case II started also with intestinal disturbances, constipation, flatulence, distress in the epigastrium and undigested food in the stools. Under drug therapy both cases steadily became worse. When bowel irrigations were begun both cases steadily improved. This improvement was only temporary, possibly because the procedure was begun too late to produce permanent result.

It is not proved that gastro-intestinal disturbances are the cause of pernicious anaemia, but they give certainly the most prominent symptoms. If the disease is due to intoxications from bacterial fermentation in the large intestine, thorough colon irrigations begun early would seem rational therapy, but if begun late after the hemolysis has well started would of course be of doubtful efficacy.

Sandoz¹ in 1887, regarding the disease of intestinal autotoxic origin, recommended gastric lavage, enteroclysis, intestinal antiseptics and laxatives.

Hunter² in "Pernicious Anaemia" 1901, concludes that pernicious anaemia is a specific clinical condition, resulting from excessive hemolysis, occurring chiefly in the portal system and brought about by intestinal intoxication in which the products of the growth of specific bacteria are probably concerned. In 1907 he³ says that it is an infectious disease originating in the intestinal tract; this however, he does not prove.

Gastric lesions are considered by Hunter as the seat not only of the primary infection but also of the subsequent development of the infection. Histological findings in the stomach have been: small round celled in-

filtration around the follicles with increase in the fibrous tissue, fatty changes in the glands and atrophy of the glands. Other authors have found these same pathological changes: Fenwick, Nothnagel, Nolen, Mader, Weichselbaum, Holt and Nonne.

Herter⁴ has shown that the presence of certain forms of anaerobic bacteria occurring in the large intestine are able to break down proteids into a form suitable for the use of other putrefactive organisms. He has also shown that the putrefaction is responsible for the indican in the urine which is constant in cases of pernicious anaemia.

Drs. Hollis and Ditman reported two cases of pernicious anaemia that were treated by colon irrigations with very marked improvement.

In one patient with marked gastro-intestinal symptoms, the red cells were increased from 928,000 to 3,800,000 and eight months after discharge his health was perfect. Dr. Hollis has since informed me that the man after drinking hard had died.

His second case had a red cell count on admission of 1,320,000 and hemoglobin 28%. After colon irrigations for three months, the red cells rose to 4,600,000 and hemoglobin to 83% and the man showed a steady increase in strength and weight, one month after leaving the hospital. Dr. Hollis says that the patient has since had a relapse, having worked over hard at his profession (publisher) and is now again under treatment by colon irrigations.

The two cases of ours are reported with the idea that they may help pathologically and clinically toward the etiology and treatment of this very refractive disease. In the future we have determined in all cases

of pernicious anaemia it would be best not to rely solely on iron or arsenic. We hope to report favorably the use of intestinal irrigation and lavage as an adjunct to a moderate dietary and an out door "rest cure" with an abundance of sunshine.

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MASSAGE OF THE "SWELL-BODIES."

BY

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With almost one accord, we all recognize the usefulness of intra-nasal massage. Its true worth is best realized in those climates

having frequent changes in temperature or in humidity. These two conditions are perhaps the most energetic producers of chronic nasal stenosis. Other causes might be mentioned as productive of this condition in a nose previously normal; but they are irrelative to the object of this article. These chronic stenoses are found to be mainly due to enlargement of the so-called "swell-bodies."

Limiting our thoughts more particularly to these swell-bodies, and especially so in cases of their enlargement due to vascular tumefaction, where we find the use of massage most marked, let us consider one phase of its technique,—the "to-and-

fro" movement. This teaching is perhaps universal and the method need not be here described. In considering whether it can be improved upon, let us reflect for a brief moment, upon the general course of the nasal vessels.

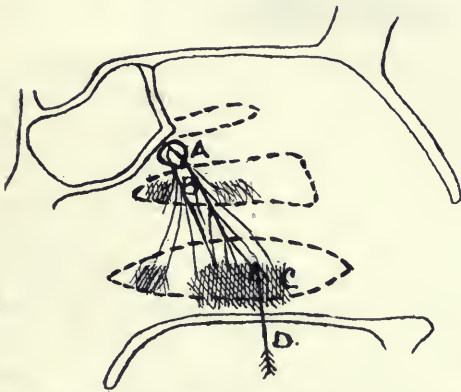
Realizing that the "swell-bodies" as such are formed by vascular engorgement, (the venous knots giving the appearance of erectile tissue rather than their being in truth an anatomical entity); and that they, as well as the whole mucosa down over the turbinates as well as the wall itself and antrum; are supplied by two or three external branches of the spheno-palatine artery, a study of their relative position should tell us the best direction for massage. This vessel enters the nasal cavity through the spheno-palatine foramen, situated in the upper meatus,—posteriorly. The direction of its branches is *downward* and forward. The veins from the aforementioned area pursue an *upward* and backward direction, taking back the greater part of the blood through the same foramen.

We see, then, that while the general direction of the swell-bodies themselves is mostly antero-posterior, yet the plexuses in them formed by the end-arteries and beginning veinlets, have more of a vertical direction. The lymphatics pursue this same course and likewise command our consideration. The course of these all, therefore, suggests a direction for massage.

Taking the anatomy as a ground of action, I have as early as seven years ago compared an up-and-down, slow, rolling massage of the swell-bodies with the to-and-fro, rapid friction massage, as taught, and believe it a better method.

In tumefaction, the swell-body along the free border of the inferior turbinate bone

demands most attention, and in the figure an arrow is drawn through this one to indicate the direction of massaging. The shape of the whole anatomical cavity in subjects differs more than the general relation of the turbinates and swell-bodies, therefore a mere diagram is here presented, believing it will be more explicit. As much care as possible is taken to represent the relative size of the turbinates, the position of the swell-bodies and the direction of the vessels,—true to anatomical facts.



The term by which I have stated the method of massage under consideration is almost explanative of its technique. By its name, an up-and-down, slow, rolling massage, we discern at once the alterations from the older method. Suppose you were to massage the swell-body along the free margin of the lower turbinate. With a little cotton wrapped *uniformly* for a distance of at least three-quarters of an inch along the probe, insert the same below the swollen body by holding between the thumb and index finger. Using a little pressure toward the outer wall, roll the probe upward over the swollen body, slowly enough to count about three during the process. In bringing the probe down again to repeat the process, do so more quickly and with less pressure than you

gave in rolling it upward. Thus is given a massage mainly in the direction of the venous return. This may be continued for a few minutes and resumed again at one sitting by alternating with other work, adding benefit to the massage. Medication is not here dwelt upon. Choice of such remains with the operator. For the aid of massage alone, when it becomes desirable to dampen the cotton,—a normal salt solution will be found highly efficient. Hyperesthetic mucosae or any accompanying diseased conditions demand their remedies.

The to-and-fro massage as recommended in the text, cannot deplete as well. In using to-and-fro, rapid friction, it taxes the operator to the utmost to keep the end of the probe under his surveyance; hence the danger from bleeding whenever it strikes with its friction pressure, posteriorly, or perhaps the vessels opposite.

Advantages to enumerate from an up-and-down, slow, rolling massage are perhaps greater than the following ones given. Most important, the direction as aforesaid is more in line with the venous return, thus insuring better depletion. This is augmented in usefulness by the fact that more pressure can be exerted safely under a rolling motion, than by the older method. The lymphatics are also unloaded, thus establishing a better state of nutrition. This is an important factor to the underlying bony structure.

As the arterial supply is shown to be in line with the other vessels, there is scarcely any doubt but that it is a better way to throw them all into a state of greater tonicity. An up-and-down, rolling motion is not so contrary to the direction of the cilia. The mode of action also depletes the glands better. It is less irritating to the

patient and causes less sneezing,—thus materially aiding your work. There is less danger of abrading the swell-bodies than by friction, which may give the complaint of soreness.

While the advantage of less liability to produce bleeding has been previously brought out by an opinion expressive of the dangers of the older method, yet it is desirable to here enlarge upon this thought by stating that when the swell-body touches the septum, which it often does,—the rolling motion with a little pressure upon the probe, keeps it free from the septal mucosa, thus avoiding free bleeding of the inner wall or even septic absorption, which otherwise might happen. A point not essential, yet practical, is that it is done with more ease. Concentration of light is not so urgent and the sense of touch will come to play much better in your work.

In conclusion the writer wishes to state that the observations are only made from regular practice. No originality is claimed,—my research work in literature not being sufficient to state whether or not the method has been given to the profession before. As even specialists have become conservative as to radical operations upon the turbinates, it may likewise become our future opinion regarding the swell-bodies to spend more time on massage, rather than resort too hastily to linear cauterization or deep incisions. With this plea, the new method is laid open to your judgment.

Cor. Greenfield and Montclair Sts.

The rapid development of an effusion into a joint accompanied by severe pain, especially in a young person, should awaken suspicion of a gonorrheal type of arthritis. Even in the absence of a urethral discharge it is advisable to examine the urine for clap threads.

MERALGIA PARESTHETICA, RECURRING WITH REPEATED PREGNANCIES.

BY

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The interest in meralgia paresthetica lies not so much in the symptomatology, as in the etiology, pathology and treatment.

Since Bernhardt's original description in 1905 and Roth's monograph a few months later, but little has been added to the symptom group so clearly defined by these observers. On the other hand the alleged causes have been numerous, the pathology seems still in doubt, and diverse opinions have been expressed regarding the treatment.

Bramwell has defined meralgia paresthetica as "a clinical entity characterized by paresthesia and usually more or less objective disturbance of sensation of the skin of one or both thighs, confined to the area supplied by the external cutaneous nerve."

It is essentially a disease of adult life, occurring usually between the ages of 30 and 60 years. It is found most frequently in males, (78 percent of cases). Heredity is an unimportant etiological factor, although there have been two cases recorded of direct inheritance. Traumatism, infection, toxemia, the diatheses, exposure to cold and pregnancy have all been mentioned as causes. Of these, trauma appears to have been the most frequent, cases being on record from such direct cause as pressure from a heavy army belt, from the band of a heavy truss and from the patient striking

his thigh against the corner of a table. The long superficial course of the nerve is considered by some to be a contributing factor.

Pain and paresthesia on the front and outer surface of the thigh are the most marked symptoms. Both may be present to an equal extent, one may predominate, or the clinical picture may vary from time to time in a single case. The pain is often of extreme severity and is usually made worse by walking. Bernhardt has described a tender point just in front of and below the anterior superior spine of the ilium where the external cutaneous nerve pierces the fascia latta. This he claims is present in the majority of cases. Tactile, pain and temperature sense may be increased, diminished, lost or dissociated. The paresthesias have been variously described as numbness, a "dead" or "wooden" feeling, burning, coldness, tightness, a feeling like "fur" or "pins and needles." The symptoms are usually unilateral, rarely bilateral, and in some instances are not limited to the distribution of the external cutaneous nerve. Damon has reported a case with like symptoms involving six of the seven cutaneous branches of the lumbar plexes, and Dana has observed a similar condition affecting the calves of both legs.

Bernhardt believes meralgia paresthetica to be a neuritis, Musser and Sailer consider the condition a neurosis and Dercum has suggested that it might be spoken of as a neuralgia. This difference of opinion may be due to the predominance of certain of the symptoms in the cases studied by the different observers. Bramwell and Souque have examined portions of the resected nerve with negative results, while Nawratzki (quoted by Bramwell) found a localized perineuritis with an associated in-

terstitial and parenchymatous neuritis, in a case in which the nerve was examined after death.

The diagnosis should present little difficulty in a typical case. Meralgia paresthetica may be mistaken for sciatica, but the usual test for the latter condition, (putting the nerve upon the stretch by extending the leg and flexing the thigh) and the presence of tenderness along the course of the nerve, should make differentiation easy. From intermittent claudication it may be separated by the location of the symptoms in meralgia paresthetica and the age at which the former occurs.

The course and duration are variable and uncertain. Shaw mentions a case of ten years duration. Good reports a case with a relapse after six years and Koster one after eight years. In the series of cases collected by Musser and Sailer, 10 percent recovered, 90 percent showing no improvement.

Treatment has generally been very unsatisfactory. Roth advocates the faradic brush, Morton prefers galvanism. Damon tried static electricity, galvanism and the sinusoidal current on a case without obtaining any amelioration of the symptoms. Musser and Sailer insist on absolute rest in bed as an element in the treatment, while Spiller advocates resection or stretching of the nerve in obstinate cases. Salicylates should be given in rheumatic cases and hot fomentations often give temporary relief. Counter irritation is generally harmful.

The history of my case is as follows—Mrs. G.—white—age 31. Family history and previous personal history present no features of interest. Her symptoms dated from July 1907, at which time she was two months pregnant (first pregnancy), and increased in severity until she miscar-

ried in November. They then improved somewhat during the following month, after which they remained stationary until I was consulted in May, 1908. She at that time complained of occasional pain, "sharp or cramplike" on the outer surface of the left thigh corresponding to the distribution of the external cutaneous nerve, with paresthesias over the same area, the most constant of which she spoke of as "numbness." These sensations were described by her as being on the surface, and above this area, and extending for some distance up the thigh, was a line of soreness which was described by the patient as being below the surface. Along this line, I found constantly present, distinct tenderness upon pressure. The "tender point" just in front of and below the anterior spine of the ilium, described by Bernhardt was not present.

She stated that the pain was made worse by walking and that at times pressure from her clothing caused much discomfort.

Objective sensory disturbances were limited to the area of pain and numbness and consisted in loss of pain sense and diminution of tactile and temperature sense.

The treatment consisted first of rest, with hot fomentations locally, and aspirin internally. Later, galvanism was applied with the cathode over the lumbo-sacral region, and the anode over the affected area. Improvement was prompt, pain being the first symptom to disappear. The analgesia was more obstinate, but after some weeks treatment sensation became practically normal. At this time she again became pregnant, with a return of the anaesthesias after about two months, accompanied by slight pain and tenderness. At four months she again miscarried, the paresthetic symptoms subsequently disappearing under treatment.

I believe this case to be of interest in adding another to the group of cases in which pregnancy is the probable etiological factor, also as showing recovery under treatment, followed by a recurrence upon a subsequent pregnancy.

The presence of constant tenderness along a line corresponding to the course of the external cutaneous nerve, adds weight to the "neuritis theory," to which I would subscribe.

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THE FALSE OR PSYCHIC GASTROPATHIES.

BY

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There is a wide gulf between the pragmatist who can conceive nothing but what is morphologically demonstrated and the narrow view point

of the self-styled mental healer whose ignorance of biology allows him to believe that psychotherapy can remove anything. Neither of these individuals is capable of a just appreciation of disordered functions. For this view we must have the outlook of the physiologist, but even many physiologists have not extended their studies of function to those complicated reactions of the nervous system termed psychic.

Now without a clear grasp of the import, potency and limitation of the influence of mental impressions over somatic processes, a clinician cannot comprehend

the mechanism of certain defects in the functions of organs which are induced by disturbances in their neural-mechanisms originating in the cortical associational processes termed psychic.

Pavlov¹ has proved experimentally that a series of associations constantly repeated can infallibly produce a definite fore-known, terminal reaction, not only of voluntary muscle but of a secretion not under the direct control of the will. It is common knowledge that pleasant tastes induce the flow of gastric juice; but Pavlov has shown that even in dogs, the frequent association of the giving of food which an unrelated impression such as the sound of a bell, may reflexly induce gastric flow, and that without the exhibition of any food whatever. These reflexes he terms "conditioned" as against the invariable, or unconditioned reflexes inherent in the lower neurones. These conditioned reflexes are modifiable in accordance with the nature of the associated impressions upon which they depend, and it is in virtue of them that educability of a species exists. They may be not only secretory, but secreto-inhibitory, as shown, for example by the dog in whom the secretion of the gastric juice excited by a full meal was totally suppressed as soon as he was shown a whip, the use of which he well knew.

In these days of rampant charlatanry of mental healing cults, it is high time that we as a profession trained ourselves so as to explain to the laity the true import of the procedures of psychotherapy; and there exists no better basis for this training than the work of Pavlov, which no clinician can afford to ignore.

To the gastric neuroses, the considerations arising from Pavlov's researches are particularly applicable.

I need not here enlarge upon the functional deficiencies of the stomach caused by anaemia, cardiac insufficiency, arterial disease, hepatic engorgement, etc.; but it is necessary to consider the secreto-motor, vascular gastric abnormalities due to diseases or disorder of the lower neurones. We know nothing of the conditions causing disease of the intrinsic nerves and ganglia of the stomach; but we do know that the innervation of these from the spinal and sympathetic systems is interfered with by certain definite pathological processes. The lesions in the posterior roots which cause the degeneration of the posterior columns known as *Tabes Dorsalis*² implicate the rami-communicantes on their way to the sympathetic ganglia³. These are first irritated by the chronic meningeal inflammation which is the cause of locomotor ataxia; and they ultimately degenerate as far as the first relay ganglion, either upon the sympathetic chain or among its branches. It is to the irritation of these nerves that we must generally attribute the gastric crises of *tabes*. Gastric crises and lightning pains, are homologous, in that each arises from irritation of a posterior root.

Now this vomiting reflex due to a definite pathological irritation cannot be influenced by an association of ideas, and it is so with all such lesions of peripheral neurones, whether causing vomiting or producing only atony and failure of secretions.

Very different are the atonies and failures of secretion primitively induced by inhibitions of psychic origin, analogous with the fear of the whip shown by Pavlov's dog. It is well known that sudden grief or terror will induce an acute indigestion, a stoppage of peristalsis causing

constipation, the arrest of saliva shown by the dryness of the mouth, besides phenomena of the vascular and other mechanisms of the body not usually subject to voluntary control; but it is not realized that a lesser psychic trauma can by a long continuance produce an effect as pernicious and of longer duration; for instance:—continuous grief, worry, painful mental preoccupation of any kind, or long continued physical fatigue may gradually arrest the secretions by mere general depression of physical tone and diminution of oxydation even when they do not concentrate themselves upon a bodily function. But when the mind is constantly preoccupied by the fear of each article of food disagreeing, it is impossible to eat with the relish which is the chief determinant of gastric flow; each morsel induces the inhibitory effect of dread. Failure to digest meals thus taken fortifies the patient's belief that certain articles of food do not agree with him; the restriction of his diet as to kind and amount gradually progresses; and he may reach the point presented by one of Dejerine's⁵ patients whose sole daily nutriment for several months consisted of half the white of an egg, two crackers, a little lemon juice, and water. Necessarily, her emaciation became extreme; but she was completely cured in the course of five months by a treatment of which the psychic factor was the chief.

A word regarding this. It should be evident that as the patient's failure to digest is caused in reality by the idea that he cannot do so, our treatment should be directed to the removal of the causal idea. Gastric stimulants or adjuvants or vaso-secretory measures are mere tinkering with effects, and are hence irrational when the

cause can be removed. The proper treatment is the eradication of the fixed idea by proving to the patient its erroneous nature. This as a rule cannot be done in one interview; for the patient is sceptical on account of the frequent failures of the treatments he has usually undergone at the hands of physicians who have not understood the considerations now being presented. Many cases indeed require prolonged isolation in order that their attention may be concentrated upon the theorem of the physician that their whole disease comes from the imagination. This they cannot believe by mere argument; the functional incapacity of the stomach seems too real. This is of course true, for by disuse the gastric digestive power has become much diminished; besides this it is augmented by the general enfeeblement of the whole system from starvation. To compensate for this and to confine the energy of the organism to the anabolism required, complete rest in bed is necessary, and it must be accompanied by abstraction of the patient from as many external stimuli as possible.

This abstention from other solicitations materially assists the re-education needed to remove his false belief that his stomach is diseased; for no other impressions than those chosen by the physician are allowed to gain access to him. Friends, letters, books, all the old associations are entirely removed; until from the arguments of the physician and his rapid weekly gain in weight, he is compelled to confess that he was deluded, and that the trouble was only in his stomach, in so far as "he kept it in his head."⁶

I need not cite cases, which would only emphasize that we cure by treating the false idea of the mind and not by influencing the neurones directly.

[The autonomous mechanisms do not functionate normally unless left alone. This is strikingly shown by the difficulty of micturition which many people experience when they are watched or psychically constrained in any way. A similar interference with defecation by psychic causes may be the determining factor of chronic constipation. Certain remedies, such as static electricity and *mica panis*, indeed influence this condition by removing the patient's apprehension that the function will not be duly performed. Then, the catch of the bow being loosened, the arrow flies. In other patients, coitus is impossible with certain individuals or under certain circumstances on account of psychogenetic interference with what is normally an autonomous act. This functional or neurotic impotence, like the foregoing instances, is quite uninfluenced by general tonics, good nutrition, or even special remedies directed to its specific organs. Rational treatment connotes the removal of the cause. This is psychic, and can be removed only by psychotherapy. The technique of this requires much skill, as well as a profound knowledge of morbid psychology. It is an art far more difficult than that of the surgeon; and on some future occasion, I hope to describe some of the principles upon which it depends, as space forbids their discussion here.]

The disease is not a neurosis in the true sense; but a psychosis the secondary effects of which will disappear when it is cured by psychotherapy. The false idea, in the cases curable in this way, has either arisen by auto-suggestion fortified by the hetero-suggestions of medical men not conversant with the dangers of perpetuating by unwary remarks, an exaggerated solicitude which they might have easily re-

moved, or is more often the direct product of medical suggestion made during real functional deficit for which the doctor has been consulted.⁷

Every one has indigestion at one time or another, many consult doctors for this, and most patients are suggestible to a certain extent. Hence, until the profession as a whole understands the mechanism of the false gastropathies, we shall continue to see cases of so-called gastric neuroses, and they will continue to find their salvation (after vain medical consultation) at the hands of such indiscriminate creators of optimists as the Christian Scientists, or the self-styled psychotherapist of ecclesiastical persuasion, and *omne hoc genus*.

The genesis of the fixed idea by suggestion and its removability by suggestion and persuasion places these cases within the category of hysteria as defined by Babinski⁸ and developed elsewhere⁹ by the writer. The anorexia shown by these patients must be differentiated from that of Lèsegue's¹⁰ mental anorexia, in which the voluntary starvation is due to the loss of the feeling of hunger. This disease is a true coenesthopathy, and possibly is one of the protean manifestations of dementia precox.

Psychasthenic patients also may voluntarily starve themselves; this, however, they do on account of an obsession of shame of body, of the act of eating, of becoming stout, and so on.¹¹ In them there is no fixed idea that the stomach is diseased; and besides, they present numerous stigmata of the psychasthenic diathesis, such as the scrupulosity, the searching for perfection even in trifles, the feeling of incompleteness, the morbid fears, the tics and other forced movements, and indeed the uncertainty and doubt and hesitancy in action, so

different from the uncritical facility, precipitancy, and thoroughness characterizing the impulsions of the true hysteric.

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Prolonged application of cold to the eye is to be avoided, because of its devitalizing action upon the tissues. This caution particularly applies to affections of the eyes with involvement of the cornea.

OPERATION IN OLD FRACTURES. REPORT OF A CASE OF DE- FORMED FOREARM FROM FRACTURE OF BOTH BONES, TREATED BY OSTEOTOMY AND PLATING.

BY

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The union of a fractured bone, like wound healing everywhere, is the result of changes brought about in the reaction of the tissues to injury.

This series of changes is modified to a certain degree by the special character of the tissues involved. In bone we have a specialized connective tissue, the most important characteristic of which is rigidity, due to the contained inorganic salts.

Reaction to injury ordinarily results in the formation of dense fibrous tissue, the scar. The regeneration of specialized tissues however, is much less regular in its occurrence. In long bones regeneration of osseous tissue is essential for the restoration of function, so that it is important that these wounds of bone should heal in the particular manner required for the formation of bony union.

The first result of a fracture is hemorrhage from the ruptured vessels of the bone. The degree of hemorrhage is, as a rule dependent on the condition of the periosteum. When this is torn, as is usual in fractures of long bones, there will be considerable extravasation of blood, which generally extends under the periosteum

along the fragments, and fills the surrounding tissue spaces with clot. This clot is later organized and forms scar tissue, often causing a complication in the healing of the bone.

Regeneration reaction begins almost immediately, and may be observed by animal experiments. The proliferation of periosteal and endosteal cells is distinct at the end of twenty-four hours. The periosteal cells always react more vigorously. This reaction forms a vascular granulation tissue that bridges the space between the fragments. Any other wounded tissue interposed between the fragments also forms granulation tissue and helps fill in this space. The essential peculiarity of bone forming cells, osteophytes, is the calcification of the new tissues formed in their reaction. This is not shared by the cells of granulation tissue from other sources, and therefore we have in this interposition of other tissues a frequent source of non-union after fracture.

The time when calcification first begins in bone union is not definite. At the end of the first week Lexer found islands of osteoid tissue in the granulation tissue. This calcified reaction tissue, the callus, surrounds the fracture and extends as a spindle shaped mass along the fragments in both directions. The spongy mass of provisional callus increases in quantity for four or five weeks, and then gradually becomes firm and is condensed finally to form compact bone. The amount of callus formed depends on the same conditions that govern the formation of all scar tissue. The more accurate the approximation of the fragments the smaller the amount of callus, while its formation and firmness are regulated by the blood supply of the parts. Excessive callus formation

results from overriding of fragments, comminution of bone, extensive stripping of the periosteum, and great extravasation of blood. Absence of callus, or delay in its production may be caused by interference with the circulation in a fragment; by wide separation of the fragments; interposition of soft parts; malignant tumor or disease of the bone; cachexias of various origins; and particularly certain metabolic disorders, for example, those associated with diminished activity of the typhoid.

Non-union causes secondary changes. The ends of the fragments become smooth and hard, and are covered by fibrous tissue which generally unites them, enclosing the ends in a fibrous envelope resembling a joint capsule. This false joint (nearthrosis) may contain fluid. Often the ends of the broken bone are simply held in some approximation by fibrous tissue, without any other change. This gives a false point of motion (pseudoarthrosis) that may disappear, because of the stimulating effect of repeated slight traumatisms on the bone forming cells and on the circulation. This explains the advantage of the so-called mobile treatment of fractures.

In dressing a fracture therefore, several points must be considered:

First. Accurate reduction of the fragments. In most cases a general anaesthetic will be required.

Second. Fixation. In applying the dressing for fixation care must be taken that it holds the fragments firmly, and at the same time that it does not interfere with the circulation. Good blood supply is as necessary for union as accurate approximation.

Third. The nutrition of the limb must be conserved. For this purpose frequent removal of the dressing for bathing, mas-

sage, and passive motion will be necessary. Many times it is best to make the fixation by adhesive plaster, so that the limb may be massaged daily in the dressing.

We operate in old fractures either because of non-union of the bone, or because union has taken place in an improper position causing deformity. Non-union may be the result of a constitutional disorder, or may be due to local conditions. Usually the constitutional causes of non-union are overcome by appropriate medical treatment in conjunction with the ordinary methods of handling the fracture, occasionally however, operation is required in these cases, because of secondary changes in the fragments. Without question it must be performed in connection with appropriate internal medication.

We have several expedients that should be given a fair trial in these cases of non-union before open operation. Thyroid extract, iron and calcium salts should be given internally because of their known effect on callus formation. The value of Bier's hyperaemia bandage to increase the local blood supply has been shown by Roberts. (*Trans. Amer. Surg. Assn.*, 1907). Injection of fresh animal blood or serum into the region of the fracture has been recommended. The stimulating value of slight motion of the fragments has been mentioned. This manoeuvre is especially useful when union is delayed in fracture of the shaft of the tibia. The entire leg may be put in a plaster of paris cast and the patient encouraged to walk on it. The practical impossibility of complete immobilization of the clavicle may explain the rarity of non-union after fracture of this bone.

Open operation is the only way to cure non-union resulting from the interposition

of other tissues, and is of value in the other varieties also, because of the opportunity to perfect the position and improve the circulation of the fragments.

Union with deformity is an indication for open treatment, if the general condition of the patient justifies any operation. The fracture should be exposed through a suitable incision and the fragments separated by cutting through the line of union. Excessive callus must be removed, and the bone ends brought into apposition in the position permitting greatest motion of the limb. The use of internal fixation apparatus (screws, pegs, nails, plates, etc.) will depend on the ease with which the approximation is retained. As a rule we should take advantage of the opportunity to make firm accurate fixation by one of these means. The result of the operation depends, in the greatest degree, on the precision with which the bone is reunited. This operation is a very important one, and like all other bone plastic surgery, it should be done only in the best environment and with good assistance. Infection is disastrous, and an awkward assistant can defeat the purpose of the operation.

Deformity increases in importance as it interferes with the motion of the limb. For this reason deformed fractures into or near joints always should be operated on. The movements of the bones of the forearm around each other in pronation and supination are easily interfered with by any deformity of either bone. The usefulness of the hand is at once impaired and the entire upper extremity is put at serious disadvantage. For this reason it is especially important in treating fracture of either bone of the forearm that union without deformity should be obtained. Comer (*Medical Press and Circular*, Lon-

don, Sept. 1908) emphasizes this fact, and recommends operation with internal splinting in fracture of both bones with internal bowing, in impacted Colle's, and in fracture of the radius below the insertion of the pronator radii teres. Failing in this the deformity must be corrected by open operation as soon as the patient can be brought into the proper environment.

The following is the report of a case of deformity of the forearm, from fracture, in which I was able to obtain a very gratifying result after open operation with plating of the bones.

Preliminary to operation the patient was given massage and passive movements, with local hydrotherapy for a week, in order to improve the condition of the muscles.

Operation, April 28. McGlannan. Under ether a long incision was made through the skin and deep fascia of the back of the forearm over the deformity. The superficial extensors were retracted, the deep muscles separated from the bones without stripping the periosteum, and the fracture exposed. The fragments had been rotated on one another, with overriding

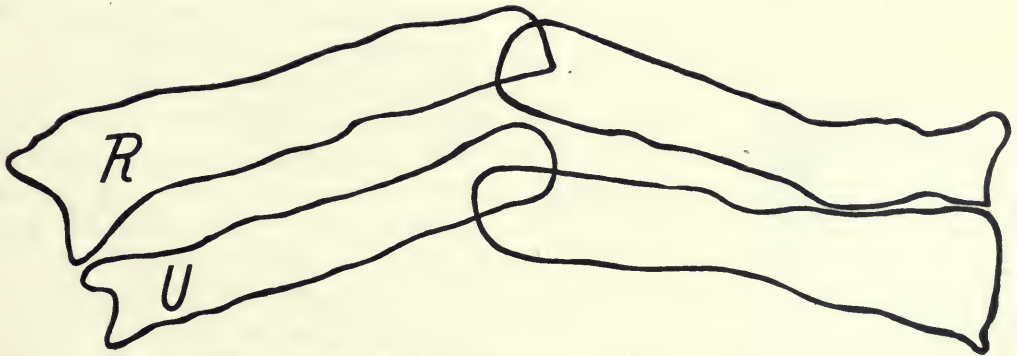


Diagram showing the deformity before operation.

Surgical No. 138. The patient a white man, age 36, was admitted to Dr. Bloodgood's wards in St. Agnes Hospital April 21, 1907, for relief of a deformity of the forearm. In a mining accident three years before, the arm was crushed, both bones of the forearm being fractured, but the skin was not opened.

The arm was much atrophied, and the muscles of the forearm were very thin. The seat of fracture, above the middle of the forearm, was marked by an irregular mass of bone, the edges of which were rather smooth. The bones were firmly healed with great overriding and bent to the ulnar side. Supination was entirely lost and the arm fixed in pronation. The forearm was shortened 2 c. m.

ing and backward displacement of both upper fragments. The ulnar lower fragment was pulled into the interosseous space toward the radius. In both bones there was firm union. The fracture lines were divided by a Gigli saw and the deformity overcome by extension and supination. The bones were fixed by means of the silver plate and screws. The plates were each 10 or 12 c. m. long and 6 screws were used in each bone. The soft parts were closed with cat-gut and the skin with silk. The arm was dressed and put up in a splint in supination. The wound healed by first intention, and the splint was removed each week for bathing and massage. At the end of two weeks passive motion was begun, and after six weeks all

apparatus was left off. The arm was improved in appearance, the muscles were stronger and better developed, the bones firmly united and pronation and supination as well as other movements of the arm were free. The patient returned to work and is now, two years after the operation, at work, performing without discomfort, his duty as a coal miner. The only deformity of the arm is the scar of the healed incision.

EPILEPSY AND THE BROMIDES.

BY

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So contradictory have been the results published concerning the value of the administration of the bromides in the treatment of epilepsy that the experience of the writer consisting of upwards of 300 cases, may not be entirely without interest. All our cases had been under observation either at the Post-Graduate Hospital or in private practice for periods of from 20 to 30 months. A large number of cases have gone and come during this period, many improved, more undoubtedly unimproved. The tendency of the class of patients in attendance at a dispensary to migrate from one clinic to another, especially if their condition has been little or not at all improved necessarily renders any table of statistics incomplete, inaccurate and unsatisfactory. Especially is this the case in the treatment of a chronic disease such as epilepsy, where improvement, not to say

cure, in the vast majority of cases is a matter of months and years. Repeated recurrences in cases which apparently are pursuing a favorable course are so discouraging that many patients finally seek relief elsewhere. The unwholesome conditions usually prevalent in the homes of patients presenting themselves at a dispensary, their ignorance or their inability to follow out closely the instructions given them undoubtedly prove important obstacles in our efforts to obtain relief or a permanent cure. In the brief time allotted to us it is not our intention to delve even superficially into the etiology or the symptomatology of this disease.

In an attempt to analyze the results obtained by our method of treatment we have arbitrarily divided our cases into two classes, those that respond to treatment and those that do not. The cases unimproved by a long course of treatment are: Cases of the Jacksonian type, cases accompanied by idiocy or mental deterioration and cases that develop after the age of 30.

Our most favorable results have been attained in cases that developed before 20 where the disease manifested itself in the form of petit mal attacks, and where no organic basis could be ascertained.

When the writer was pursuing his undergraduate course of medicine he was told that the treatment of epilepsy consisted in the administration of 15 grain doses of sodium bromide t. i. d., that frequently good results were obtained by prescribing a mixture of the bromides of sodium, ammonium and strontium. Whether this was the extent of the knowledge of our worthy pedagogue on this subject the writer does not know. A year later we became associated as clinical assistant at one of the

largest neurological clinics in this city. After six months when we were first permitted to prescribe for the patients in attendance we were told that the treatment of epilepsy consisted in the administration of 15 grains of sodium bromide t. i. d. and in the elimination of salt from our patient's diet. The latter therapeutical measure was regarded as a *sine qua non*. At once the writer was impressed by the fact that patients who religiously abstained from the use of salt did immeasurably better than those who persisted in partaking of it. Some short time later as a result of the withdrawal of several senior assistants at the clinic the writer was able personally to take charge of nearly all the cases of epilepsy that came to the dispensary. The severe, distressing, acne and the not infrequent lethargy resulting from the prolonged administration of the bromides soon attracted his attention. We at once began to reduce the dose from 15 grs. to 10 grains. As no apparent ill effects resulted from this procedure the amount prescribed was further reduced first to 7½ grs. t. i. d. and then to five.

In all these cases the patients were instructed rigidly to abstain from the use of salt. Finally in all cases that were progressing favorably the administration of sodium bromide was entirely stopped. In more than 50% of our favorable cases this produced no apparent ill effects. As a result of our experience it is now our custom to reverse entirely our former method of procedure and not to prescribe any bromide at all if our patient shows any favorable response to a salt free diet. If this method of procedure is unsuccessful, frequently the administration of from 5 to 10 grains of bromide t. i. d. has resulted in material improvement. We have never

seen any cases that failed to respond to small doses of bromides do better when larger doses of from 15 to 30 grains were administered.

In addition to a salt free diet we instruct our patients not to indulge in meat more than once a day, to avoid any unnecessary excitement, to bathe daily, to avoid constipation and to be out of doors as much as possible. In summer they are cautioned against unnecessary exposure to the rays of the sun.

ANALYSIS OF 100 CASES.

None of these cases had any ascertainable organic bases, none were over 30 years of age, none were of the Jacksonian type.

Apparently cured after 2½ to 3 years 9
Improved materially on salt free diet 21
On bromides 19
On unimproved 51

In the nine cases apparently cured, six were of the petit mal type—three had grand mal seizures. Of those suffering from petit mal one had as many as 19 attacks a day. The others had from one or more a day to one every 2 or 3 weeks. Our experience in this regard differs from that of many text-books which state that the prognosis in cases suffering from frequent attacks is decidedly bad or even hopeless.

Of the cases not cured but improved all had derived material benefit from their course of treatment. Some have had their attacks reduced from five or six a day to one a day; some few from several seizures a day to one attack a week, or one a month. Some four or five have done even better than this.

In the cases classed as unimproved or materially unimproved we have included all those who exhibited decided improve-

ment lasting for intervals of a month or two only to return to their former lamentable condition. As we have stated before the poverty of many of our patients, their confined lives, their unhygienic surroundings, and their failure to follow our instructions as well as our ignorance of the causal factor of their disease undoubtedly have materially increased the percentage of cases that fail to show permanent improvement.

CASE I. S. L. age 6. Family history, father has one or two epileptic attacks every year. This patient first came under my observation in March, 1906. At that time he was suffering from typical petit mal attacks occurring every day—frequently he had five or six convulsions a day. These attacks had existed for 2 years. He was placed on a salt free diet and $7\frac{1}{2}$ grs. of bromide t. i. d. were prescribed. For 2 months he was entirely free from any attacks.

The next time I saw him was in September, 1907—in the interim he had gone to an X scientist, had lost his power of speech and had 2 or 3 or more severe convulsions every day. He was placed upon the usual treatment salt free diet and received 5 grs. of bromide. For the next five months the boy came to my office every week. During all this time he was entirely free from any grand or petit mal seizures. After 2 months owing to a severe acne that developed he received absolutely no bromide. After he had been entirely free from attacks for 5 months a tubercular gland appeared in his neck and with its advent his convulsions returned. Eight months later with the disappearance of this tubercular gland the convulsions ceased and our patient for 7 months has

been entirely free from all seizures and has during that period received no medication.

CASE II. E. B. Bath Beach, 5 years old. This child was seen by me at the Hospital for Ruptured and Crippled in 1906, but unfortunately I have no record of her condition at that time. In January, 1907, she was brought to my office and at that time had from 10 to 20 p. m. attacks a day. On Jan. 14, 1907, she was placed on a salt free diet and 5 grs. of sodium bromide administered t. i. d.

Jan. 15, 19 attacks.

Jan. 16, 13 attacks.

Jan. 17, 10 attacks.

Jan. 18, 0 attacks.

and since then until Sept. 1908, she has been entirely free; thus for eighteen months there had been no recurrences.

CASE III. This patient is eighteen years old, single, and has no occupation. Her grandfather died of Bright's disease, and for years suffered from severe headaches. One cousin had fits for a period of over 24 years. Her mother has suffered from headaches ever since she was a girl. The patient was born normally, had measles and whooping cough when a child, but never had any convulsions. She was breast fed and began to walk at 13 months. When 14 years of age she had appendicitis and chlorosis. From her 16th to 18th year she had three attacks of pneumonia. She began to menstruate at 16. Three years ago patient had her first attack; while at school she was severely frightened, became very pale, faint and nauseated. Two days later she had a convulsion characterized by unconsciousness, clonic spasms of the arms and the legs, twitching of the face; she bit her tongue; she frothed at the mouth, and voided the

bladder. Six weeks later she had a second seizure and since then the attacks have increased in frequency occurring at first at monthly intervals, later on every fortnight. On two occasions she had two attacks on one day. The character of the spells are as above described. Occasionally she suffers from light attacks in which she cries for help, feels faint and then recovers without any convulsion. The severe attacks usually last from 3-5 minutes. Thereafter she snores deeply and sleeps about 20 minutes. The attacks are preceded by rotation of the head and a feeling of pressure in the epigastrium. Since the attacks have become more frequent she has become forgetful, irritable, and has developed a ravenous appetite. Following the administration of 10 grains of bromide t. i. d. patient remained ten weeks without a seizure, sixteen days intervening between the next attack which was of moderate severity. One month later she had a subsequent attack. She was free from any spells for four months thereafter. Then she thought she had recovered from the disease, grew careless and indulged in her craving for salt. The attack that followed was a moderately severe one. For nearly fifteen months since then she has been absolutely free from these petit mal attacks. For the past six months her sole medication has consisted in the administration of five grain doses of sodium bromide t. i. d. For eighteen months the patient has suffered from an intractable acne of the face; lately this has been diminishing in intensity.

CASE IV. This patient is 18 years old and a domestic by occupation. Her father died of pneumonia. Her mother had three miscarriages and one child was still-born; she has had five living children.

The patient had diphtheria and measles when a child; she began to menstruate at 14; but her courses were never regular. She never was able to learn very much at school and would remain a year or two in the same class. Five years ago she began to have convulsive attacks, typically epileptic in character, occurring at frequent intervals. Frequently she had a number of attacks on consecutive days. During an attack the blood rushes from the limbs and she then becomes unconscious. She says she froths at the mouth, bites her tongue, the entire body becomes stiff, and she twitches the arms and legs in a typically epileptic manner. She does not soil her clothes nor roll her eyes. After each seizure she has a severe attack of vomiting and for some days thereafter feels dull and experiences soreness in her limbs and body. Notwithstanding all our efforts this case, which has been under our care for almost two years, still experiences typical epileptic seizures at intervals of a month or two.

CASE V. This patient is 15 years old, a school-girl. Her father died of yellow fever. Her aunt says she was born with instruments, and the labor was long and difficult. She never was ill until four months ago when she had a convulsion characterized by choking in the throat, followed by a rushing, gurgling noise as though some foreign body was coming up from the stomach. This phenomenon has been present in all her subsequent attacks. She becomes unconscious, rolls her eyes, has convulsive movements of the arms and legs. She does not soil her clothes, or froth at the mouth. The attacks come at intervals of two weeks, occasionally more frequently. At times she has two or three a day. The patient began to menstruate

a few months ago. She attributes her condition to overwork as a result of recent efforts to be graduated from school. This girl has been under observation for eighteen months. During this period she has been entirely free from attacks. At the outset of her treatment she received ten grains of sodium bromide t. i. d. for four or five months, then this was reduced to five grains t. i. d., the amount which she has received ever since. Four months ago, although for nearly a year she had been receiving only fifteen grains of the salt a day, she presented severe symptoms of bromism unaccompanied by acne or foul breath. These symptoms rapidly subsided when the bromide was removed, and eliminatives administered.

CASE VI. This patient is 23 years old, single, and a corset-maker by occupation. Her father died of heat prostration; her mother is a neurasthenic. One sister and one brother died in infancy. Her maternal grandmother died of cancer of stomach. A paternal uncle died at the age of twenty-three of insanity. Father has been moderately alcoholic. Patient was born normally, had scarlet fever at three, followed by diphtheria, measles, mumps and whooping cough. During none of these diseases did she have any convulsion. When eight years old she fell off a sled and upon reaching home became semi-conscious. When fifteen years old she had a severe fright; her mother told her the house was on fire and when she looked out of the window she immediately had a convulsion. Six months later she had a second attack and since then the spells have come on at intervals of a few weeks gradually increasing in severity until at the present time she has several a day. The attacks begin with jerking of the body; she

then falls, becomes unconscious, works her limbs, froths at her mouth, bites her tongue, rolls her eyes, and occasionally voids her urine. The convulsions last a minute or two; subsequent to the attack she sleeps for a half hour or more and awakens with a severe headache. Since her arrival at the Clinic two years ago, this patient has been entirely free from all attacks.

CASES VII AND VIII. These two cases have been grouped together because of their close resemblance to one another; both these cases of epilepsy occurring in early youth. Case VII. began at the age of 10, case VIII. at 8 years. Both boys are low grade imbeciles with typical grand mal attacks occurring once or twice a week, in both the faculty of speech is impaired; both have failed to improve under treatment.

CASE IX. This girl is 14 years old, a school-girl. Her family history throws no light upon her present condition. She had whooping cough at two, measles at three; no convulsions in childhood. The menses have not appeared as yet. One month ago had first attack followed at intervals of a week by three others. During the first attack she was found unconscious on the floor grinding her teeth. During her subsequent attacks she had no convulsions, no frothing at the mouth or any other symptoms of grand mal attacks. Occasionally during the day she has seizures characterized by a sensation of heat in her epigastrium and throat, her face becomes flushed, she stares fixedly before her, mumbles a few words, yawns and trembles. Although ignorant of the fact that she mutters, she does not entirely lose consciousness. For the past three weeks these attacks have occurred from one to

five times a day. In the past seventeen months the patient has, since the administration of bromide, been entirely free from any petit mal or grand mal attacks. For seven months she had been receiving seven and a half grains of bromide t. i. d. for 10 months none; she has never suffered from acne; her menses appeared six months ago.

SUMMARY.

(1) The value of the bromides in epilepsy has been greatly overrated.

(2) The dosage commonly employed is not only excessive, but deleterious when its administration is prolonged.

(3) Small doses produce as good results as larger ones.

(4) Half of our favorable cases responded to treatment without any bromide being prescribed.

(5) When employed without ordering a salt free diet the use of the bromides is almost valueless.

(6) Any decided amount of Na Cl in the blood acts as an irritant to the cerebrum and increases the frequency and severity of the attacks.

(7) While we do not know why the exclusion of salt from our patient's diet is so beneficial in the treatment of epilepsy we do know that equally brilliant results are obtained by its prohibition in chorea.

(8) Less than 10% of all cases of epilepsy are curable and only 50% of carefully selected cases were benefited by prolonged treatment.

(9) The writer does not presume to explain the brilliant results obtained in cases 1 and 2 and in many others that responded similarly to treatment.

DISCUSSION.

Dr. Wm. Leszynsky said that he had always been very much interested in this subject, and had been very much pleased to hear the state-

ments made by the writer of the paper. He thought the majority of practitioners looked upon the term epilepsy and bromide as synonymous. He thought that a bad precedent as some patients recovered without the use of bromides. Much depends on the type of epilepsy. Some patients if they are in the early period—particularly children—can be treated on hygienic grounds, particular attention being paid to the gastro-intestinal tract. He thought that since the Craig colony was established a few years ago the lesson had been taught that manual labor, particularly out of doors, will produce recovery. Can epilepsy be treated without bromides, taking epileptics as a class? Dr. Leszynsky thought not, particularly the dispensary patients, people in moderate circumstances, people who were poor. Bromides simply throttle the patient. A great deal can be accomplished by the use of bromides added to hygienic management. Not much can be accomplished by having patients come to the dispensary regularly. Little can be done towards helping them regarding their diet and way of living. Dr. Leszynsky thought that where a patient had been taking several grains for a year or two and the attacks had been kept under control, it was dangerous to withdraw the bromides suddenly as the attacks would come on more frequently. Regarding the cure of patients, the subject of epilepsy had been threshed over and over again, particularly before the Neurological Society, and the understanding was that a patient who had been under treatment for a number of years and who had been free from attacks for two or three years after the bromides had been given was free from epilepsy. He wished to caution in regard to the importance of making a correct diagnosis. He had seen many patients treated for epilepsy who did not have it. Only a few days before a patient had been brought to the hospital and when he had picked out the history card he found on it a very accurate description of epilepsy given by the patient herself. It is always necessary to have someone describe the character of the attack who has witnessed it. A case he had had several years before was that of a young man brought to him in a deplorable condition; one would have said he had epilepsy. The patient had been bromidized by physicians for several years because he had had two or three attacks a year. Upon investigation it was found that he had had only three or four attacks a year. The bromides were withdrawn and the patient had no further attacks. The only medicine he received was cascara, but his diet was regulated and at the end of the year he had had no further attacks. The exciting cause of attacks is very frequently due to gastro-intestinal disturbance. If a patient's diet is regulated it will not be necessary to give bromides. He agreed in the main with the statements made by Dr. Lesem.

Dr. Rosenbluth said he had had 100 cases.

Dr. Neustaedter said he had very little to add except that in the clinic a meatless diet was insisted on for a few months. They invariably had better results with bromides.

Dr. S. P. Goodhardt said only a few things occurred to him, one of which had been emphasized by Dr. Leszynsky—the importance of diagnosis, and the etiological factors. When one considers that the frequency of these attacks is the result of some reflex agent, it behooves one to go into the etiology. Ranney did great service to the profession when he published a large number of observations of muscular eye-strain causing these affections. Nose and throat men tell us that the conditions of the nose not infrequently result in minor attacks. As to the administration of bromides, Dr. Goodhardt thought it one of the most important things with which we had to deal. As to the unpleasant features of the bromides, the two unfortunate results were the presence of acne and extensive ulceration; also a condition of mental apathy. The apathy is very often overcome by administering caffeine. He did not think cases were influenced by a less amount than 30 grains every day. If after a month's treatment of 30 grains one sees that it is not going to do good, it is wise to discontinue it. The administration of bromide in combination with belladonna is especially serviceable. A form of treatment highly recommended is the administration of antipyrin at night. Attacks had been avoided by giving a patient $7\frac{1}{2}$ grs. at night.

Dr. Barsky said that as a rule salts acted on the stomach and assisted the action of the bromide.

Dr. M. M. Stark said that in a severe case of epilepsy he had seen the patient take bromide of soda for over a year and a half without ill results.

Dr. Rothenberg said that the trouble with the dispensary treatment of epilepsy seemed to be that there was no time to go into the etiology. In his experience in clinics he had found that almost every case of epilepsy had complications. In two cases at Gouverneur clinic the epilepsy had been attended with a very irregular pulse. A young girl of 16 shortly after getting up and going out of doors would fall, and from her description it was a typical case of epilepsy. However, after the administration of digitalis for 6 weeks she was entirely cured. The reason that the bromide treatment is not always a success in dispensary cases is because it is not always needed. In a case of nocturnal epilepsy which had been operated three times and part of the skull removed, it was cured by a 15 gr. powder of trional at night. One should treat every case according to its symptomatology.

PUERPERAL ECLAMPSIA.—A very useful adjuvant in the control of puerperal convulsions is an enema of about four ounces of starch-water holding 2 Grams (30 grains) each of potassium bromide and chloral. It may be repeated in three or four hours. In rare instances it will completely arrest the paroxysm.—*Am. Jnl. of Clin. Med.*

CORRESPONDENCE.

A TOUCH OF SENTIMENT.¹

To the Editor American Medicine:

In a late issue of "American Medicine" I notice a reference to and quotation of a poem by Dr. Butler which ought to be cut out and placed in every doctor's scrap-book.

I came across another poem issued as a booklet by some eastern house by another doctor whose contributions I have noticed in your publication.

It touched me in such a way that I wrote a note of inquiry to the author in care of the publishers, and after several weeks got a reply.

He is a physician in far Hawaii, and wrote this poem as a tribute to a "dear classmate, Dr. F. M. Crane of Pittsfield, Illinois." It is so sweetly said, and bears such a tender, joyous spirit of cheerful sadness, that I think it should have place in your journal:

"I'LL SOON BE COMING UP YOUR WAY"

"'T is but a journey, dear,

And

We shall meet again, I know—

In that fair land where thou hast gone—

Where flowers and palms and blessings grow!

'T is but a step from here,

And,

There as here the skies are blue;

What matters it what lies between,

If ships are strong and friends be true!

'T is little change, they say,

And

The wide river is not dark—

While his firm hand is at the helm,

Guiding along the tiny bark!

'T is wrong to mourn; I laugh

And

Wave my hand to you, my dear;

Death has no terrors for me; ah,

He is the least foe that I fear!

Then shall I wear bright flowers,

And

Smile with the sunshine of the day;

Goodbye, my friend, my lucky friend—

I'll soon be coming up your way!"

R. G. BROWN.

Oakland, Calif.

¹ The doctor referred to is Dr. E. S. Goodhue of Hawaii, an article by whom will appear in our next issue.—EDITOR.

ETIOLOGY AND DIAGNOSIS.

The Diagnosis of Internal Hemorrhage.¹

Regardless of the cause, the following symptoms of severe internal bleeding are more or less constant, some being pathognomonic:

Respiratory System—Breathing is rapid and shallow, there may be dyspnea, and the phenomenon of air-hunger is always present, and most distressing.

Cutaneous System—The skin is blanched and covered with a cold clammy perspiration.

Gastrointestinal—The mucosa of the mouth and lips is intensely pale, there is an intolerable thirst, and the lips and mouth are dry and parched. Vomiting of a thin dark fluid, which is probably altered blood, is of ill omen and is usually a forerunner of death, and is very persistent. The bowels are lost control of and the same kind of material that is being vomited will be frequently passed.

Circulatory System—The heart sounds are weak and sound distant. The pulse is extremely rapid, with a great loss of tone, the radial impulse being perhaps imperceptible. Examination of the blood shows a great loss in hemoglobin.

Nervous System—There may be frequent attacks of syncope, there is great restlessness, the patient tosses about on the bed, and feels as though he is sinking through space. There are muscular twitchings, and perhaps convulsions. The temperature is subnormal.

Genitourinary System—Urine is voided involuntarily, and greatly diminished in quantity.

Special Senses—There is tinnitus aurium, pupils are dilated and react to light slowly, and there are flashes of light complained of. The pain sense is diminished.

Shock—As the condition of shock is due to a vasomotor paresis, there will be a great many symptoms that closely resemble hemorrhage, as will be seen by the following:

Examination of the abdomen will show no collection of fluid. There may or may

not be any evidence of traumatism, as it is to be remembered that a violent mental impression frequently causes shock.

Respiratory System—Breathing is rapid and shallow, and the Cheyne-Stokes type of breathing may be present, which type usually means death.

Nervous System—There will be coma of varying degrees, from a slight transient form to the most profound which may last several days. Delirium is nearly always present and may be severe, so much so as to simulate acute mania.

Gastrointestinal—The lips and mouth are not dry as in hemorrhage. The bowels move involuntarily, or there may be obstinate constipation. There is no thirst as in hemorrhage. Vomiting is always present, and it usually marks the return to consciousness, and is not of the altered-blood appearance.

Circulatory System—The pulse is rapid and weak, there is no loss in hemoglobin.

Genitourinary—Urine is not voided, and when catheterized usually shows albumin.

Temperature is subnormal. Skin is cold and clammy. Mucous membranes are cyanotic.

NORMAL SALINE SOLUTION.

In making up the so-called normal saline solution it is of importance to have the percentage of sodium chloride relatively exact, i. e., 7 to 9 per cent., no more no less. Ringer, Howell, Loeb and others have shown that a solution as low as 6 per cent. dissolves the red cells and abstracts salts from the tissues and a solution as high as ten per cent. causes the cells to shrivel. When normal saline solution is to be given continuously for a long time, calcium and potassium chloride should be added, the former acting as a stimulant to the heart muscle, while the latter is essential for its rythmical contraction and relaxation.

In my experimental work I have found the following to be the proper percentage, viz.:

Calcium chloride	0.25
Potassium chloride	0.10
Sodium chloride	9.00
Sterilized water	1000, C.C.

—*Wiggs in Old Dominion Med. Monthly.*

¹T. F. Smith, M. D., Washington, D. C., Med. Record, April 3, 1909.

TREATMENT.

Acne Vulgaris.¹—Cole summarizes his valuable paper as follows:

1. Acne vulgaris is usually a pyogenic infection implanted on a skin whose functions are perverted by the influence of age, reflex disturbances or seborrhea.

2. Acne rosacea is an acne implanted upon a chronic hyperemia or rosacea which arises almost invariably from reflex influences from the gastrointestinal tract or pelvis.

3. Internal treatment in both varieties of acne is exceedingly important. Reflex disorders must be sought for and corrected, if possible, before the best results can be obtained.

4. External drug treatment in both diseases is usually disappointing. Sulphur in the form of lotio alba properly made is the best external preparation, and should vary in strength suitable to the condition of the disease.

5. Mechanical treatment, such as the use of hot water, soap, massage and the dermal curette, is exceedingly valuable.

6. The opsonic method in acne vulgaris is promising.

7. The Roentgen treatment of both acne vulgaris and acne rosacea is the most valuable. In its certainty of cure and infrequency of relapse it almost approaches a specific.

8. The technic of using the *x-ray*, say in acne, is of paramount importance. If the ray is properly applied there should be few, if any, failures and no undesirable effects.

The Treatment of Gonorrhea in the Female.²—In the treatment of this disease the prime essentials, says Samuels, are cleanliness, intraurethral injections, and constant care as to details. The patient should be made to understand clearly the gravity of the disease, the sequels and complications that usually follow neglected cases, and she should be urged to continue under observation until pronounced cured. It is the duty of every physician to make a thorough and painstaking examination to

acquaint himself with the full extent of the disease. A physician who will conscientiously employ the proper local treatment, and not rely on the advertised quack internal remedies, will have successful results.

In the acute or painful stages of the disease no local treatment should be given. The external genitals should be bathed frequently with mild antiseptic solutions, such as bichloride, 1 in 6,000, or a saturated solution of boric acid. The hot sitzbath may be used. Rest in bed is very desirable. The diet should be light and nonstimulating with large quantities of such diluent drinks as flaxseed tea. The bowels should be kept loose with saline purgatives. For the burning and scalding urination potassium acetate in from ten to fifteen grain doses, three times daily, usually gives the greatest amount of relief. If tenesmus is present tincture of hyoscyamus in from ten to fifteen drop doses should be combined with the potassium salt. The balsams and oils usually employed in the male are of no account and have a strong tendency to derange the digestive function. As soon as the inflammation in the urethra has some what subsided from the use of the foregoing measures suitable only for the acute stage, intraurethral injections of protargol, one per cent., are to be given daily. As the inflammation further declines the strength of the solution is to be increased gradually up to two or three per cent. Generally under this treatment the gonococci rapidly disappear, and the discharge becomes less. After the gonococci have disappeared the protargol solution should be discontinued. The process of healing should be further aided by injecting a mild astringent solution of zinc sulphate, every third day, until the mucoid discharge ceases.

Vaginal douches are contraindicated, as they defeat the purpose for which they are intended by removing the protective secretion of the vagina. At the same time the nozzle of the syringe, which may have been lubricated with infectious pus, carries and deposits the gonococci high up in the genital tract.

The chronic stage requires a different treatment. Injections will not improve the condition. The only proper and satisfactory method is to expose the ulcerated or con-

¹ Albert M. Cole, M. D., Indianapolis, Jour. of the Indiana State Med. Soc., Mar. 15, 1909.

² A. Samuels, M. D., New York City, New York Med. Jour., Mar. 20, 1909.

gested parts by means of an endoscope and directly apply to these infected parts a solution of silver nitrate, twenty grains to the ounce, every three to five days until the ulcers have healed. Skene's glands when involved should be emptied daily by pressure from above downwards on each side of the urethra. If there is a chronic diffuse inflammation about these tubules they should be laid open in the direction of the vagina and their lining mucous membrane burned with either a silver stick, carbolic acid followed by alcohol, or the actual cautery.

Conclusions.

1. All cases with a history of burning and scalding urination should be thoroughly examined for an existing urethritis.
2. If a urethritis is found, presume it is of a gonorrhœal origin, if no foreign body is present.
3. Institute a thorough treatment in all cases, for if a cure cannot be effected complications may be prevented.
4. Employ the vaginal douche only after all traces of the primary infection have disappeared and never in the early stages.

DIETETICS AND HYGIENE.

A Diet List for Diabetes Mellitus.¹

Tyson gives the appended list for mild cases of diabetes mellitus, in which it is not difficult to eliminate the sugar from the urine.

Shellfish—Oysters, mussels and clams, raw and cooked in any style without the addition of flour.

Fish of all kinds, fresh or salted, including lobsters, crabs, sardines and other fish in oil; fish roe, caviar.

Meats of every variety except livers, including beef, mutton, chipped dried beef, tripe, ham, tongue, bacon and sausages; also poultry and game of all kinds, with which, however, sweetened jellies and sauces should not be used.

Soup—All made *without* flour, rice, vermicelli or other starchy substances and without the vegetables named below as not allowed; animal soups not thickened with

flour, such as bouillon, beef tea and broths.

Vegetables—Cabbage, cauliflower, Brussels sprouts, broccoli, tomatoes, green string beans, the green ends of asparagus, spinach, dandelion, mushrooms, lettuce, endive, coldslaw, olives, cucumbers, fresh or pickled; radishes, sorrel, young onions, watercress, mustard and cress, turnip tops, celery tops, artichokes, gherkins, okra, parsley, or any other green vegetables.

Fruits—Cranberries, plums, cherries, gooseberries, red currants, strawberries, acid apples, lemons, oranges sparingly—all without sugar. Acid fruits may be stewed with the addition of bicarbonate of sodium or saccharin instead of sugar (see below).

Bread and cakes made of pure gluten flour, aleuronat flour, soya flour, peanut or without eggs and butter. Griddle cakes, pancakes, biscuit, porridges, etc., made of these flours. Oatmeal porridge with cream. *Where especial stringency is required the last should be altogether omitted.*

Eggs in any quantity, and prepared in all possible ways, without sugar or ordinary flours.

Butter and cheese.

Nuts—All except chestnuts, including almonds, walnuts, Brazil nuts, filberts, pecan nuts, butternuts, cocoanuts.

Condiments—Salt, vinegar and pepper in moderate quantities.

Jellies—None except those sweetened with saccharin. Jellies may be made of calf's foot or gelatin, and flavored with wine.

Drinks—Coffee, tea and coca nibs, with milk or cream, but without sugar; also milk, soda (carbonated) water, and all mineral waters freely; lemonade without sugar, acids, wines, including claret, Bordeaux, Rhine and still Moselle wines, very dry sherry, unsweetened brandy, whisky and gin. No malt liquors, except those ales and beers which have been long bottled and in which the sugar has largely been converted into carbonic acid and alcohol. Saccharin may be used for sweetening tea and coffee.

To be Especially Avoided—Cantaloupes, watermelons, peaches, grapes and other sweet melons and fruits; sweet potatoes, rice, beets, carrots, turnips, parsnips, peas and beans; all vegetables containing starch or sugar in any quantity; sweet wines, in-

¹ James Tyson, M. D., Philadelphia, Univ. of Penn. Med. Bulletin, Jan., 1909.

cluding sherry, Madeira, port and champagne.

A Dietary for Mucous Colitis Patients.¹—No hard and fast rules can be laid down, owing to the idiosyncrasies of patients; but the general principles upon which Von Noorden lays stress are that the food shall contain a bulky residue, and that the irritating effects of such a diet shall be minimised by adding to it large quantities of fat in various forms. Cellulose is the most important residue in Von Noorden's dietaries for mucous colitis. The following is a practical account of the details of such a *regime*, open to suitable modification according to circumstances, as advocated by Dr. A. C. Ransome.

It is better that the patient should be isolated in a nursing home, with a firm but sympathetic nurse; and the treatment may be the same, whether it is begun during an acute attack of the malady or during an interval. The patient should go to bed and stay there. A typical dietary would be as follows:—

7 a. m. Half a pint of milk-cream mixture.

8 a. m. Half a pint of Kissingen water.

9 a. m. Half a pint of cocoa with cream, 2 ounces of bread, 2 ounces of butter, marmalade.

11.30 a. m. Twelve ounces of special soup, 3 ounces of bread, 1 ounce of butter.

1 p. m. *Lunch*: Pounded meat, 2 ounces of bread, boiled potatoes, green vegetables, baked apple, stewed pears, or boiled gooseberries, and cream.

4 p. m. Half a pint of milk-cream mixture.

7 p. m. *Dinner*: like lunch, but with 3 ounces of bread and 2 ounces of butter.

9.30 p. m. Half a pint of milk-cream mixture.

Dr. Ransome adds some practical notes as to the nature of milk-cream mixture, and as to the mode of preparation of some of the foods. Milk-cream mixture consists of equal parts of milk and cream, and one teaspoonful of sugar of milk per pint. The cream should contain 30 per cent. of butter-fat, and nearly a pint of it should be taken in 24 hours in one form or another. The bread should be of the coarsest flour ob-

tainable. The larger proportion of husk it contains the better. The usual brown bread sold as whole-meal bread is not sufficiently coarse.

Dr. Ransome lays particular stress upon the value of special vegetable soup, and he gives the following directions for its preparation: A breakfast cupful of lentils or dry peas are placed in a pan in sufficient cold water to cover them, and they are allowed to soak all night. In the morning a slice of fat bacon 6 in. by 2 in. by $\frac{1}{4}$ in. thick is added, and the whole boiled for an hour. Now put one teaspoonful of butter and one of flour into a small pan on the fire, add a teaspoonful of milk gradually, stirring all the time until well mixed; then add a teaspoonful of cream and mix with the lentil—or pea—pulp. To vary the flavour of the soup a sufficient quantity of green peas, spinach, asparagus, or other green vegetables, should be placed in cold water and boiled for half an hour, rubbed through a sieve, and added to the pulp. The soup should ultimately be more of the consistency of porridge than of ordinary soup.

Meat may be of any kind, but it is more easily digested if it is prepared as follows: It is cut up finely with a sharp knife, and thoroughly pounded in a mortar while raw. It is then mixed with sufficient beaten-up white of egg and milk to make a thick cream, placed in a china basin and boiled in a pan of water for three to five minutes, being well stirred during the process.

GENERAL TOPICS.

The Physician's Attitude to the Emmanuel Cult.¹—The following deserves thoughtful reading by every physician. Dr. Collins' standing in the profession endows his words with special importance:

What is our further duty as physicians, as citizens and as representatives of the culture in our branch of the humanities of the twentieth century? In my opinion it is so to state our position that we shall not be misunderstood and that our motives can not be misinterpreted. It has been hinted here and there that our livelihood is being encroached on and that our very existence is threatened. If such things could be, and from the attributed causes, I for one should hail it with delight. The

¹ The Hospital, Jan. 9, 1909.

¹ Jos. A. Collins, M. D., Med. Record.

public probates of physicians' wills are the best evidences that most physicians do not practice medicine for riches, and the few who do must be bitterly disappointed. My profession needs no champion. If now and then we have fallen on parlous times, and words of appreciation and approval are grateful, a pen capable of transcribing letters in ink that will not fade has appeared in the hand of an immortal like Robert Louis Stevenson.

It has been said that physicians misunderstand the Emmanuelites' position and misinterpret their teachings. There seems to be no facts furnished on which to base such charges. A recent anonymous defender of Rev. E. Worcester, writing in the *New York Times*, says that physicians accuse Dr. Worcester of holding that psychotherapy is a universal panacea. I do not recall having seen such accusation in the public print; but a measure that will cure 80 per cent. of all cases of alcoholism approaches more nearly a universal panacea than anything this world has ever seen! This writer also says that Dr. Worcester is accused of wishing to revert to the age when the functions of priest and doctor were united in one man. I do not presume to know what Dr. Worcester wishes, but I judge from his actions and his words; they indicate that he is reverting to the middle ages. This critic also says:

"The chief reason why many sick persons hesitate before they send for a doctor is because doctors are too inhuman. They have lost their humanity in the laboratory. They look on a patient, not as a poor, sick fellow-creature that they want to help, but as an interesting intellectual problem; an opportunity for a little original investigation."

Every one is entitled to his own opinion, unless his conduct based on such an opinion endangers life or makes its possessor a nuisance to others. When it does his family or friends put him into an asylum in order to safeguard him and them. It would be interesting to know in what laboratory doctors are dehumanized. I am not aware that the laboratory experience of any save an extremely small number of physicians is of such extent that it would bear much more than mere mention.

I purposely refrain from speaking of one feature of the Emmanuel movement which solicits careful investigation; that is the statements of Dr. Worcester, his disciples and fellow-practitioners regarding the frequency of functional nervous disease and the success that attends their treatment. If any one can believe that they cure 80 per cent. of cases of inebriety no word of mine will awaken him, for he is luxuriating in a glorious vision of the promised land, the millenium to come when this miserable world, freed from the fetters of alcohol, insanity, immorality, imbecility and illegitimacy, shall be no more.

But it seems incredulous that any opinion emanating from an individual who makes a statement so wholly devoid of fact as the one which I am about to quote should have the slightest weight with any one capable of reasoning. Bishop Fallows, who is the champion of the Emmanuel movement in Chicago, has recently written a book entitled "Health and Happiness," which contains the following paragraph:

"The functional disorders of the nervous system are quite modern. They appeared some time in the last century and were never known before in the history of the human race. They are so common now that the physicians designated as neurologists could not take care of one-tenth of 1 per cent. of these cases."

Now I submit that if one were to characterize briefly the mental or moral status of an individual who made such a statement he would be reduced to the use of brief words and very few of them. Every one who has even an elementary knowledge of the history of the middle ages knows of the ravages of the so-called functional nervous diseases in that period. Tome on tome of literature and statistics attest it. In fact, I could successfully defend the thesis that functional nervous disease is no more common now than it was 300 years ago.

PSYCHOTHERAPY OF THE EMMANUELITES.

As an example of the suggestion in psychotherapy, I may quote from a recent lecture of Dr. Worcester in New York, in which he told in glowing terms how insomnia and the alcoholic habit were overcome by suggestion. His suggestion for those who have insomnia was, "When you retire, think of the beautiful things of

Nature. Imagine you are on the brink of a placid lake; then think of the soft moonlight as it falls on the peaceful water." Yes, indeed, if the baby suddenly cries while you are in the midst of such alluring thoughts, or your wife insists that you go down and put the furnace in shape for the night, keep in mind that the placidity of the lake has not been disturbed in the meanwhile and that the moonlight is just as soft as before your sweet dreams were rudely disturbed!

Fellow practitioners, let us have zeal of God, but let us have it according to knowledge.

SOCIETY PROCEEDINGS.

EASTERN MEDICAL SOCIETY OF THE CITY OF NEW YORK.

Stated Meeting, Friday, April 9th, 1909.

The regular monthly meeting of the Eastern Medical Society of the City of New York was held at the Cafe Boulevard on April 9th, Dr. Wolff Freudenthal in the chair. The Presentation of Specimens and Report of Cases were as follows:

1. Report of some Interesting Surgical Cases and Presentation of Specimens, by Dr. A. A. Berg.

2. Second Caesarian Section in the same Patient, by Dr. S. W. Bandler.

3. Reports of some Interesting Gynaecological Cases and Presentation of Specimens, by Dr. L. J. Ladinski.

The first paper of the evening was on the subject of *Earaches—Their Causes and Treatment*, by Dr. H. Jarecky. This very interesting paper was ably discussed by Dr. Percy Friedenberg, who considered the subject from an Otological point of view; Dr. William Leszynsky from the standpoint of a Neurologist and Dr. Louis Fischer from the standpoint of a Pediatricist.

The second paper was on the subject of *Differential Diagnosis between Gastric Ulcer and Cholelithiasis* by Dr. Harris Weinstein. Dr. Weinstein's paper was ably discussed by Drs. G. A. Friedman, S. Basch, A. Bassler, R. Cronson, H. Strauss.

At the executive session the following physicians were elected to membership: Drs. I. Eckert, S. P. Goodhart, Gennaro

Ippolito, H. W. Korman, G. MacKee, A. Ringer, N. Schwartz.

There being no further business the society adjourned to the next monthly meeting.

ANNOUNCEMENT.

We have received several letters from subscribers asking that we establish a Department of Therapeutic Notes and Queries. Our correspondents have urged the desirability of thus devoting a reasonable amount of space to the consideration of practical topics, more especially modern therapeutics and the treatment of various diseases. In some respects the proposition appealed to us and in other respects it was very far from attractive. It is true that several journals conduct such departments but we have often wondered how much their subscribers really cared for the material presented.

The matter has been submitted to us so forcefully, however, and the demand seems so insistent that we have at last decided to inaugurate a *Department of Notes and Queries* in our May number. Several leading practitioners and specialists of New York City and Philadelphia have agreed to answer all legitimate inquiries for us and we hope that our subscribers will make full use of the opportunities thus afforded. Names of correspondents will not be published but no unsigned communications will be answered. Questions pertaining to diagnosis and treatment, and especially the newer methods of therapy—sera, vaccines, etc.—are particularly desired. Our subscribers are also urged to send us short replies or comments on any of the communications printed in this department.

We know from the large number of letters we are constantly receiving, that AMERICAN MEDICINE has thousands of loyal friends who take genuine pleasure in the success of the publication. We sincerely hope that these friends will help us to make this new department of the utmost practical value.

The possibilities for cooperation would seem to be unlimited and every member of the staff of AMERICAN MEDICINE will do his utmost to further this new project.

American Medicine

H. EDWIN LEWIS, M. D., *Managing Editor.*

PUBLISHED MONTHLY BY THE AMERICAN-MEDICAL PUBLISHING COMPANY.

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Complete Series, Vol. XV. No. 5.
New Series, Vol. IV, No. 5.

MAY, 1909.

\$1.00 Yearly
In Advance.

A temporary defeat for pure water was the outcome of the last effort to prevent the pollution of the streams of New York, but what is most amazing is the fact that this damage to society is reported to have been inflicted by the owners of pulp mills. Such short-sightedness is almost inconceivable, because a very little common sense should have caused these people to realize that they are sure to arouse an indignant public opinion which will retaliate. It is now well known that it is a simple matter of chemical engineering to remove all injurious substances from industrial waste water and that to save this slight expense these manufacturers are deliberately ruining the property of the people—the water courses. Food fishes have been exterminated from certain streams and this public loss alone is sufficient to warrant the State in bringing suit for damages under the common law. In addition, many communities are put to great expense in obtaining good water, when they had it at their very doors until it was ruined by the pulp mills. Finally the destruction of the forests has caused frequent floods, soil denudation, and injury to property rights further down stream from the increased muddiness of storm water.

The public damage from water pollution is so great that it is not a stretch of the imagination to assert that the State really

had an interest in the woods destroyed, and that the money obtained therefor is partly public property—morally if not legally. Under such circumstances, the use of money or other means to defeat legislation looking to the improvement of health and saving of life and property is sheer folly. It proves that there really are malefactors of great wealth whose power to do evil must be checked. It has long been an axiom that the good of the people is the supreme law and it has been decided time and time again that industrial establishments must not be injurious to neighbors, but in this case there has been actual destruction of public property for private gain—a very thin partition separates the offense from straight stealing and the sooner a public conscience is aroused to declare it stealing the better it will be for public health. Even communities who pour their untreated sewage into water courses are really stealing the property of others, for they are destroying the drinking water belonging to society as a whole.

The war on the house fly is a modern necessity now that we know what damage it inflicts. Not so long ago it was taught that this insect was a necessary scavenger and we should be thankful for his presence. No one seemed to think it was possible to so conduct our affairs that we might dis-

pense with his services. Nor was there the slightest conception of his breeding habits. It seems such a simple matter,—this gospel of cleanliness, that we are constantly amazed at our complacent ignorance. But it is all changed now, and curiously enough the revolution in public sentiment is the result of the missionary work of laymen, not physicians. Yet after all it seems to be a rule in such matters, that a few medical observers discover the facts and then must depend upon laymen to spread the news and work up a public sentiment the profession seems powerless to arouse. Medical literature has a limited circulation and it often happens that facts which the public should know are discussed for some years before the layman of average intelligence knows of their existence.

The House Fly at the Bar is the title of a most valuable pamphlet issued by the Merchants' Association through its committee on the pollution of the waters of New York. Mr. Edward Hatch, Jr., the energetic chairman, deserves the highest commendation for the manner in which he is bringing the facts to public notice—facts as to the breeding places of flies, the uselessness of the animals if we will only be so clean that they have nothing to eat, and finally the dreadful way in which they spread disease. Of course there is no fact mentioned which is not known to every physician, or at least which should be known, but it is all news to the people who are responsible for the existence of the little pests and upon whom we must depend for their extermination. There is now no reason why this potent cause of sickness and death should not be ended, though of course it will take a long time to educate the public. In the meantime, encourage-

ment should be given to the crusade, so that every person in every walk of life, no matter how lowly, will be able to avoid those causes of death now surrounding him and carried to him on the feet of flies.

New Jersey's reluctance to continue mosquito extermination is a veritable disaster and shows the need of greater publicity of the wonderful results so far accomplished. In this case the money argument is the opposite of that usually made in sanitation, for it is not to prevent loss, but to increase gains. For instance, on Staten Island, the extensive and efficient system of ditching and draining, devised by Dr. A. H. Doty, State Quarantine Officer, has practically banished the mosquito as a pest and rendered habitable much waste land whose value has increased many times more than expenses of the work. In addition, malaria has practically disappeared, for though the marsh mosquitoes are not generally the anopheles, the crusade invariably takes in the breeding places in and around dwellings and disseminates knowledge as to the transmissibility of the disease, and how to avoid it. Town sites now exist where, a few years ago, no one could live. If Jerseyites could only be convinced of the big returns on such sanitary investments they would not hesitate to appropriate funds to enable Professor John B. Smith, the State Entomologist, to continue the drainage work which has already accomplished phenomenal results.

Long Island's mosquitoes are receiving attention and in time will also disappear as a pest though there is much work to be done. Last summer New York City suffered from a visitation, the insects having been driven there by an east wind which

blew from the marshes for thirty hours. It would be profitable if such swarming alone would be prevented, let alone the health and life saving,—and of course we have the old sordid argument of increased valuation of real estate near the marshes. There is considerable doubt as to whether mosquitoes will ever be entirely exterminated where extensive marshes exist, but not the slightest doubt in the world that as a pest the swarms will be prevented and all these waste lands made habitable. Indeed a community may suffer so much from the neglect of a neighbor, that under the common law as to nuisances, courts may compel every locality to carry on a mosquito warfare. Legislatures must realize that modern crowding of population renders such work a necessity of existence, and the appropriations are merely the price of national growth. Let there be no more shortsighted refusals to continue the system so successfully inaugurated.

The Illness of Elwood Worcester of Emmanuel Church has caused some ill natured comment to the effect that the new cure is not a preventive. The press reports seemed to indicate that he was simply exhausted from burning the candle at both ends. Yet he was to be solemnly taken in hand by a healer and convinced that he must give up his tired feelings instead of being ordered rest and food. This is really carrying the matter too far, and creating a feeling of disgust in the medical profession, instead of the hopeful one with which the new movement was welcomed. We hope the state of affairs is not as bad as it is painted, but it is sad to see the wreck of what was once considered a valuable assistant in therapy. The dangers to which we have

called attention are being realized and the mental exaltation of the enthusiasts is leading others to exhaustion. A Newark, N. J. clergyman has written to the *New York Times*, preposterously claiming to have cured, within a year, stammerers, alcoholics, nervous dyspeptics, people with chronic headaches, nervous colds, bitter grief, fixed fears, jealousy, religious skepticism, lustful habits and violent temper—and he did it all by “good advice, affirmatory prayer and suggestion.” We confess to ignorance as to some of these diseases; and as to those we can classify, we can only express alarm that the patients should be deluded into the belief that they are cured.

The psychology of woman has been receiving a great deal of attention of late, though individual man has been puzzling his poor addled brain over it for many thousands of years and is no nearer an understanding of the matter than he was in his paleolithic stage of intelligence. Indeed, about the first thing a boy realizes is the fact that he does not understand girls, and perhaps it is an old man’s last thought before he passes on to where there is no marriage nor giving in marriage. Learned psychologists think they know a lot about woman, but they don’t. It is just as well to have things as they are and not as we think they ought to be. Billiken looks like a fool and perhaps he is, but nature is a wise old girl who accomplishes her ends in devious ways beyond our comprehension. Under her management of affairs, through selection of the fittest for survival, the family requires two sets of protectors,—one within and one without, and their duties are so different as to be incomparable. The man fights outside enemies and he is ac-

tively destructive, the woman must be passive and conservative, preserving the children in her care. His work does not permit of compassion, her work is based on it, and she will even let it spill over and will nurse back to life a wounded enemy who has been disabled while attempting to destroy her and the children. A manly man makes a sad mess of it when he tries to do a woman's work, and a womanly woman has never yet succeeded in man's work. We say nothing of feminine men or masculine women, but leave them for pathological study.

Male and female minds are both defective so that each, to do its best, must be assisted by the other. Many a man owes his success to the suggestions of mother or wife. Few great men have been celebrities and they are generally abnormal men of genius who are not included in this discussion. The woman always relies upon male advice except in feminine matters and in these she generally does the opposite of what a mere man would think she ought to do. The family survives as the unit of society, because its combined mind is the only perfect one. How foolish then to talk about the relative superiority of the two parts of one whole! Each is inferior to the other in some respects and it is quite to be expected that if one judges the other by its own standards, the conclusions will be wide of the mark. If anything, the woman understands man better, for she has been deprived by nature of muscular force and activity—at least in civilization—and must accomplish by strategy what he does by force. She has been compelled to study him for thousands of years and the most successful have survived, and by ordinary natural selection

she now possesses the power of instinct. It has long been known that even little girls see through and through the little boys, years before boys have the slightest comprehension of girl psychology if they ever get any knowledge of it at all.

Female suffrage has brought the psychology of woman very prominently forward. A few centuries ago men voted with their swords, but as soon as they lost their ability to fight, they were deprived of the suffrage, and classed with the women and children. Old men were even slaughtered by our Teutonic ancestors who found they had enough to do feeding themselves. It was only after civilization demanded the wisdom of the aged, that they were preserved. Before then the only ones who decided the fate of the tribe were those who could fight for it, but it is quite evident that the women had much to say about the fights then as now. In the complex civilization of today, the protection of the nation is delegated to a very few, and many of the males are unfit for it—physically or mentally or both. It is therefore quite logical that the women should claim the right to vote now that the franchise is given to all other adults who cannot defend the family in war. Those who have property assert they are taxed without representation, while a penniless stupid immigrant helps to make the levy, but it must be said that few of them created their wealth which was given to them by a male member of the family. The only question is whether the female mind is competent to decide on matters of State, or whether the interests of the nation are best served by having the women modify the votes of the males of their families as they have always done. We

confess that we cannot decide and will dodge the issue with due humility if not cowardice. We need only remark that in such nations as France and Germany, where soldiering is still a part of citizenship, the women do not seem to want to vote,—the agitation is apparent only where defense is the duty of a few. If we are forced into a great war the women will be promptly deprived of the suffrage even if they get it before then. The women and their property will be saved by the young men who will ignore the hysteria of suffragettes. Perhaps, in peace,—and we say perhaps with some trepidation—the women will destroy themselves if they vote on such questions as to whether we shall go to war.

Low grade American medical colleges have repeatedly received some deserved hard knocks at the hands of the Council on Education of the American Medical Association. The United States has more medical schools than all the nations of Europe and only half are reported sufficiently equipped, 30 percent are doing poor work and 20 percent are unworthy of recognition. It decides that to be properly educated, a physician should have spent four years in a high school, one year in physics, chemistry and biology, two in laboratories of anatomy, physiology, pathology and pharmacology, two in clinical work and one as an interne! It does seem that the deplorable conditions are due to the fact that students with limited means cannot possibly take such a course, and that the unrecognizable colleges are the natural result of our attempt to make "doctors" of all "practitioners," a thing England has never attempted. In

addition to this, European colleges are not as expensive as ours although they do require time to attain a "learned" degree.

The Proper Sphere of the Cheap College.

The facts seem to show the necessity of prohibiting our low grade schools conferring the degree of "doctor" when in fact the graduates are far from "learned." The evil may not be corrected in any other way, for these schools are permanent fixtures, filling a want of the sick poor—a want as urgent here as it has always been in England with its third profession, which resents the title of doctor. There is room for very few real "doctors" both here and in Europe, and for these the present colleges of high grade are more than ample. The evolution of medical education and medical practice, seems then to be in the direction of utilizing the low grade schools for the training of the third profession—men licensed for a limited sphere of practice,—neither doctors nor druggists but between the two. It would no doubt be best to eliminate some schools entirely, but that does not seem practical in the absence of a proper substitute. They could be put to splendid use,—indeed, the small college, if it has good teachers, has immense advantages in training "practitioners", who are not so bloated by excessive "learning" that they can neither think nor work.

The impending change in medical education is shown by the growing opposition to any further lengthening of the medical course, and it must be heeded or we may find that other bills will slip through legislatures similar to the optometry one.

They will all be due to the fact that men intending to practice a limited specialty cannot afford the long course. It does seem that we are on the point of a revolution in medical education, similar to the one already accomplished in engineering, for both sciences are entirely too big to attempt to teach all to each student. The old style medical college is as much out of date, as the primitive engineering schools. In both sciences there are specialties which only the best educated should attempt and even then not until after some years of general practice and post-graduate courses, but for dentistry, sanitation, "licensed medical practitioners", X-ray work and refraction it is absurd to compel the student to waste time studying such things as the technique of a gastro-enterostomy. In other words specialization in medical education is absolutely necessary and is bound to come for it is in line with the past evolution of civilization. Perhaps in time a license may be requisite for a specialty, and then the untrained self-styled specialists will disappear.

The American Medical Association is one of the noblest institutions in the United States. Any body of American physicians banded together for the purpose of raising the efficiency and status of medical practice must be fundamentally sound and meritorious. Credit unre-servedly belongs therefore to the men whose executive ability has helped so materially to build up the organization financially and otherwise.

But what could have been accomplished but for the loyal enthusiastic support of the hundreds—yea thousands of physicians who have cheerfully paid their five

dollars per year? The real credit for the present American Medical Association after all belongs to the individual members, the men who have been proud and willing to support the avowed principles by their annual contributions.

And yet in spite of their all important influence in making the American Medical Association the powerful organization it is, the individual members have absolutely no voice in the direction of its affairs or the creation of its policies.

Is this right or fair?

Is a scheme of organization that makes no provision for the expression of the will of its members a safe one? There is no other such organization of intelligent men on earth, and medicine, which ought to be the most democratic of all branches of thought, cannot prosper under such a system of autocracy. We are casting no aspersions on any one. We have no animosity against any man or group of men, and we ever want to be among the first to praise and appreciate ability and good work. But the situation is pregnant with dangers and we feel that the American Medical Association is too great and good an institution to be jeopardized by the evils of an absolute centralization of its administrative powers and management.

Arrangements ought to be made and right away, for the submission of every important question once a year, to the members in open meeting. Full opportunities for debate should be had and then the questions under discussion should be decided by a membership vote.

Can there be the slightest objection to this?

Are the members who make up this great association not to be trusted to govern themselves?

Give Us a Lincoln! The situation demands a big, strong man in the House of Delegates. A man who has courage enough to face the issue and point out to his associates the shoals of absolutism on which the organized profession are drifting. A man who not only can see but will publicly say that the individual members deserve to have some voice in the affairs of the Association. A man who will not fear defeat as long as he is fighting for the right. And finally, a man who can and will win, and give to the American Medical Association the only thing it needs to make it not only the best and most potent influence in American medical affairs, but what is vastly more important, secure for all time against evils from within as well as from without.

The Dispensary Question still continues to receive consideration, and at the last meeting of the New York County Medical Society it was decided to appoint three delegates to work in co-operation with the Joint Committee of the Medical Societies of the City of New York. The purpose is to carefully and intelligently study the abuses of dispensary practice and plan measures that will effectively remedy the evils, while preserving the real benefits. For the first time in the history of New York City medical affairs, the problems of the dispensary bid fair to receive adequate consideration. The whole question in its several phases has been presented to Dr. Edward T. Devine the very capable general secretary of the Charity Organization Society of New York, who has agreed to bring the matter before the Board of Directors. It is believed that the Board on investigation of the motives actuating the movement,

can be induced to also appoint a committee to work in conjunction with those previously mentioned. District-Attorney Jerome has already given assurances that his office will co-operate with the Joint Committee. Judging from the interest created and the progress that has so evidently been made, the prospects are unusually bright for an early correction of the fundamental abuses that have so long made the dispensary evils of New York City a disgrace and shame to the local medical profession.

Clean medical charity is the only aim of those who started this present movement. It is not necessary to here consider the various evils of dispensary practice. Every intelligent doctor knows them and the conditions existing in New York City are duplicated in some degree in every other large city in the country. Unless a complete readjustment of the dispensary system shortly takes place an infinite amount of harm is sure to be done, not only to the practice of medicine, but what is of still greater importance, to the worthy sick and afflicted. Under present conditions no little part of dispensary practice is a disgrace to scientific medicine. It would be neither wise nor helpful to particularize, but the methods in vogue and the treatment meted out in more than one dispensary would not be tolerated in a second class veterinary or canine hospital. This is not confined to the small little known institutions, either, and if the occasion arose we could supply some interesting data concerning at least one of our large so-called teaching hospitals that would make interesting reading, if nothing else. This thing cannot continue much longer. The lay publications and

newspapers have recently brought the public face to face with concrete examples of dispensary malpractice, and when the fires of public indignation burst into flame, money, power, or prestige will not avail. The medical profession should do their own house cleaning in this matter of the dispensary. They owe it to themselves and to the honest poor of the city. But if they leave it for the laity it will be a sorry day, for the laity are not over careful and it may mean a few—mind you, a few—damaged and broken reputations.

Speaking of Mr. Jerome, reminds us that here is a public servant who deserves a great deal of commendation from the thoughtful people of the community. If ever a man has been heckled, villified and shamefully abused by the press it is Mr. Jerome. He came into office on a tidal wave of reform. The same voices that cried "vive Jerome" also cried "a mort les grafters". It was the same old story of a hero and hero worship, with this difference that the people had laid out his work for him in advance. After his election Mr. Jerome tried faithfully to keep to the schedule of the populace. The plaudits and praise of the public are intoxicating and it is entirely probable that Mr. Jerome felt the stimulating influence. But soon he got his bearings and set his own course. Right here he showed the stuff of which he was fashioned. No public clamor, no cry for victims, no criticism has swerved him from the right as he has seen it. This has taken courage, the real genuine kind, and we feel if any man ever deserved the sincere respect of the thinking classes,—to which the medical profession assuredly belongs—it is Mr. Jerome.

He has made mistakes, he has played politics, and he has shown himself to be humanly susceptible to the "call of the office." But he has been big enough to play his own hand, and take the consequences. He has hit the line hard and if he has not always won, his opponents have known at least that he was in the game.

Some one may ask what interest does all this hold for the medical profession? Simply this, that every important question in the community concerns the physicians. Mr. Jerome as a strong capable man looms large on the civic horizon, and we physicians know the value of men who can think, and thinking, act. The medical profession itself made up of thinking men, is intensely appreciative of worth and individuality. It is safe to say that Mr. Jerome, therefore, has no stauncher friends than the doctors of New York City.

Will Drugs Ever be Discarded? In the light of the increasing antagonism which certain "pathies" or "systems of healing" evince toward drug medication, it would appear that this question has been definitely answered once and for all. If the votaries of the new methods of treating disease were the only ones raising the question of the efficacy of drugs, the whole proposition might excite nothing but ridicule. As it happens, however, a considerable number of honest medical men, and not a few intelligent people of other callings, have alas, also shown a disposition to doubt the utility of the medicinal agents that since time immemorial have played a conspicuous part in the treatment, if not the cure, of disease. Consequently, however ridiculous may seem our opening question to the men who

are practicing honest medicine throughout the country—safely, sanely and successfully—it is certain that the question of drug therapeutics is bound to loom large for some time to come.

Looking at the matter in a fair, open minded way it must be admitted that several factors have tended to produce a condition of drug skepticism, if not of drug nihilism. First and foremost has been the multiplicity of remedies submitted and recommended for each disease. The greater the number presented for any one malady, naturally the less esteem each remedy has been able to command in any particular field of activity.

Second in importance has been the uncertainty of physiologic action, even of the drugs known to possess the most positive therapeutic value. Dosage has been so arbitrary and individual equations have been so little considered that the failures have been as frequent as the successes. The great variability of crude drugs has constantly emphasized the fundamental difficulties, and the development and maintenance of fixed standards of pharmacologic strength have seemed almost impossible. And so it has gone. To those who have realized the conditions militating against therapeutic accuracy, it has been a constant wonder that physicians have been able to obtain the percentage of successful results they actually have. As a matter of fact until a short time ago the use of drugs was little more than an art, highly developed it is true, but still subject to all the limitations and variations that make every art a problem of individual talents and skill. Some physicians in their use of even the crudest drugs have arisen to the artistic heights of a Michel Angelo, or a Mozart; others like countless

lesser artists have been obliged to be content with average success; while many others have tasted naught but the dregs of failure. Such is the story of every art, and therapeutics has proven no exception to the rule.

The Science of Pharmacology at last bids fair to change all this. The determination and isolation of active principles, the establishment of definite standards, the growth of animal experimentation and the extension of clinical observation are slowly but none the less surely converting the empiricism of the past into the modern science of accurately controlling physiologic functions, modifying metabolic processes, and neutralizing or antagonizing the products of germ activity. Modern methods of diagnosis make possible not only the determination of signs and symptoms hitherto unrecognized, but likewise enable us to place a proper valuation on them. Take for instance the study of blood pressure. A few years ago it meant little or nothing to the average doctor. To-day the physician who does not possess a blood pressure apparatus and regulate his treatment of certain diseases more or less by its findings, is the exception. And so it is with the blood and other fluids of the body. Physiologic chemistry and the microscope not only tell us certain things about pathologic processes, but enable us to accurately estimate the action and effects of the remedies we use in our efforts to correct them.

Can any one question, then, the status that is being created for the therapy of the immediate future? Without a doubt, the dawn of a new era of accurate scientific medication is at hand, an era that holds possibilities in the future conflict with dis-

ease that even the most sanguine of us have scarcely dreamed of. It means the triumph of science, the culmination of years of groping, plodding and studying. It means the enthronement of scientific medicine, and the achievement, not of the Philosopher's Stone, but of what is vastly more important, a definite knowledge of the action of different medicaments when introduced into the human body.

No, drugs will never be discarded.

We may use fewer drugs than in the past but we will use that few so well that never again will the spirit of drug nihilism rear its hapless head.

For instance, there will always be quinine, which as Woods Hutchinson says is "the greatest therapeutic gift of the gods to mankind." It has carried the white man into the tropics with his message, and has brought him back. It has been responsible for many of the last century's triumphs of civilization and it will be responsible for many more in the future. As in the past it will take the fevered wreck and in a few days or hours even, will give him a new lease of life and hope. The only difference will be that we will use it better, more precisely and more specifically. Who can preach drug nihilism to the malarial fever patient who has been saved by quinine from suffering that no pen can describe?

Then there will be opium and its derivatives. Surely God was good when He gave us the poppy. Somehow or other, the knowledge that no matter how terrible pain and suffering he may encounter, he can always relieve it, gives the physician a supreme confidence that is one of the best and grandest features of his calling. On the battlefield, wounds

too horrible to describe may cause such agony that the strongest men will quail at the sight. A swift injection, and then, shortly the shrieks and cries of the sufferer grow less and less, soon there is only a moan. Over the distorted face a change begins to steal. A great calm compasses all, and soon like a little child sinking to sleep, the sufferer who prayed for nothing but death, feels the peace that passeth all understanding, for the miracle of perfect analgesia has been wrought. Could the most rabid drug nihilist in such a case question the Godgiven virtues of the poppy?

Then, there is mercury. An innocent little child may be infected with syphilis. Soon its tongue, mouth and throat are covered with a mass of mucous patches. Its tender pink and white skin, from head to foot, is spotted and red, its hair begins to fall, its eyebrows and eyelashes disappear, its teeth decay and a healthy, happy, care-free child, becomes a pitiful but loathsome victim of a disease that unless straightway controlled, will certainly mar its wholesome beauty forever. But now a skillful physician begins the systematic use of mercury. A small portion of ointment weighing only a few grains perhaps, will be rubbed into the skin under one arm on one day, then under the other on the next, then into a little thigh, and so on. But lo the miracle! A few days clear the mouth, then the skin; the disease disappears and in a few short months we have back again the happy, care-free child. More than all, a year or so of treatment, practically insures its future against the possibility of a relapse or a sequel. Could one ask a drug to do more?

And thus it goes. There are many other drugs that used with the precision of

detail that modern methods make possible, will give results no less surprising than those depicted for purposes of illustration.

Iron, ergot, digitalis, aconitin, atropine, nitroglycerine, and countless others, each used with the exactness of a rapidly developing technic, will soon give prompt positive effects that can leave little to be desired.

No, drugs have a place to-day they never had before, and as our mastery over them becomes more and more complete, the science of medicine will as surely come to its own, as has surgery, "the damned butchery" of one hundred years ago—the marvel of the twentieth century.

Bacterial labor will soon be as common as any that mankind employs. If any one had even hinted a few years ago that germs were anything else than the bitterest of foes, he would have been laughed to scorn. But lo! the unexpected has happened, and it has been discovered that we have our friends even among the lowly bacteria. "Friendly germs" is the term some one has applied to the newly discovered race of micro-organisms that are just dying to show their devotion to humanity; and all manner of industrial possibilities are predicted. The principal germ that has thus far taken up its labors in man's behalf is the so-called lactic acid, or sour milk bacillus. The industry of these "little brothers" of the wicked germs that all have learned to fear, is astonishing. They have had no experience as "white wings" or street cleaners, yet they are said to be wonderfully efficient in putting the *prima viae*—the Great Dark Way—into a condition that would redound to the credit of the most capable Street

Cleaning Commissioner. They have had no engineering experience, yet if we are credibly informed, these working bacteria can operate the subways of the human body better than they have ever been operated. They never allow overcrowding at express stations, and when they are on the job, blocks or break downs rarely occur. Then as policemen. Under their good offices bacterial depredations and crimes are reduced to a minimum. Every entrance to the human body is zealously guarded, and any germ seeking to get in, has to show passports, certificates of character and submit to a physical examination. Concealed weapons are promptly confiscated. If perchance some wily germ gets by the immigration bacteria and commences to show a "black hand" disposition, he is immediately seized and summarily destroyed, or escorted to the nearest port of exit and deported. If before this can be done, some germ anarchist throws a bomb and creates a pathological calamity, the friendly germs give all the succor possible to afflicted cells, repair the damage as fast as they can, and help to restore normal conditions. Thus can be seen the great advantages likely to accrue from these kindly bacilli. The proposition offers really startling possibilities and doubtless we are all destined to see marvelous developments in the future activities of these microscopic laborers. Hurry up, little bugs, *noblesse oblige!*

The Atlantic City Meeting of The A. M. A. bids fair to be one of the most important in the history of the Association. The published program is unusually promising and the place of meeting gives every assurance of ample hospital accommodations and a splendid outing. Every member should make a special effort to attend.

ORIGINAL ARTICLES.

THE VALUE OF MILK FREE DIET
AND ENTEROCLYSIS IN TY-
PHOID FEVER.¹

BY

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Owing to the wealth of material presented before your society this evening, I shall make my paper as short as possible, but will endeavor to demonstrate to you that the milk free diet in typhoid fever first suggested by Dr. A. Seibert is based upon absolutely scientific principles.

I desire to briefly call to your attention those peculiarities of typhoid which seem to have a direct bearing on the subject of diet.

The disease is a *general infection*, the bacilli entering the circulation and being carried throughout the body. Intra-vitam they can be demonstrated in the blood by proper methods in a large proportion of cases, and post-mortem have been isolated from most of the organs.

The typhoid toxins also play an active part in the toxic process. The parenchymatous changes which occur in the liver and kidneys in typhoid fever necessarily interfere with their functions in eliminating certain poisons from the system; while disturbance of the biliary secretion in turn affects the digestion of fats and interferes with intestinal functions. In addition to the changes in the lymph glands of the small intestine, notably of the ileum, in about one-third of the cases the glan-

dular elements of the large intestine are involved; and in *all cases* an acute catarrhal condition exists throughout the *large and small intestine*. This last important feature seems to be lost sight of when the question of correct diet is brought to our consideration.

During the period of high temperature of typhoid there is marked derangement of the secretory function of the stomach, a diminution and at times even an absence of free hydrochloric acid, and a lessening of the pepsin and rennet ferments. Disturbance of the motor function of the stomach is frequently found during this period; while the biliary secretion has been demonstrated under this condition to be diminished in quantity and altered in character. The pancreatic and intestinal secretions are also unquestionably interfered with. Disturbances in the pancreatic juice were noted by Stolkow.

Functional disturbances of the digestive tract occur during the periods of high temperature of other diseases, such as tuberculosis, pneumonia, etc. It is self-evident therefore, that the *height of the temperature should influence considerably the character of the diet*, though one so often sees the same standard diet given in all stages of temperature,—which I believe inadvisable.

In discussing the diet of typhoid, I desire you to keep continuously in your mind the disturbances of the functions of the gastro-intestinal tract, the presence of the universal intestinal catarrh, and the condition of general infection to which I have just referred.

During the past few years, we may say that there have been practically three methods of diet advocated in typhoid fever, viz.: (1) the full diet, or more prop-

¹ Read before the Medical Society of the County of New York, February 26, 1909.

erly speaking, a rich albuminous diet; (2) milk diet, with milk or fermented milks, as a basis; and (3) fluid diet without milk, by means of strained soups, first suggested by Seibert.

Regarding the *first method*, the opinion has been brought forward that typhoid fever patients should be given—during the course of the fever—food rich in albuminous substances. In this way, it was claimed, the resisting power of the organism was increased, the course of the disease was less severe and the period of convalescence shortened. Gornicke, Barrs and Puritz have gone so far as to recommend at the height of the fever a diet consisting of hard boiled eggs, cutlets chopped up fine, white and brown bread, etc.

One can hardly improve upon Ewald's¹ reply to these claims: "My conscience as a practitioner would not permit me to follow this advice. If anyone examined, as I did, hundreds of typhoid intestines post-mortem, and thus convinced himself that in an apparently mild and harmless course, there may be many and deeply penetrating ulcers, then he could not so easily take upon himself the responsibility of giving a typhoid patient a diet of such a solid character, which can by no means remain—so far as the mucous membrane is concerned,—without disadvantageous effects. I cannot help thinking that it is *particularly fortunate* that the observers whose names have been mentioned in this connection *have not had to contend with very grave consequences*; and for my part I should never think of prescribing for my typhoid patients a so-called course of diet, viz.: meat, with its indigestible fibres, and vegetables at an earlier

period than 6 to 8 days after the fever had ceased."

Nevertheless there are some physicians who still advocate the liberal diet. I have tried the method but once myself, with resulting relapse and death of the patient.

This endeavor to increase the resistance to typhoid, either by the method described, or by liquid diet—employing dextrose and fats in addition,—is based partly on the principle that the patient should for this purpose, lose as little weight as possible. We must remember, however, the following facts:

1. That it has been thoroughly demonstrated that no matter what the intake, the nitrogenous output in this disease is always markedly in excess.¹ Loss of weight will occur in any event.

2. Fat does not constitute resistance in these acute infections. In fact, fat patients offer less resistance and frequently do badly.

3. As it has been conclusively shown by Chittenden and others that excessive proteids are harmful even in health; in an acute infection with the disturbance of all the functions as previously described, it is evident that no discussion as to the propriety of forcing a proteid diet is required.

4. Forced feeding in typhoid, or in any of the acute infections during the period of temperature, cannot in any way be compared in principle to the Lenhart method in ulcer of the stomach. The conditions are entirely different, though I have heard this comparison made.

Regarding the *second method* of diet, the use of milk as a standard in typhoid fever, I wish to draw your attention to certain facts.

¹Zeitschrift für diätetische und physikalische Therapie (Von Leyden's).

¹Finkler & Lichtenfeld. Centrblatt für die allgemeine Gesundheitspflege, 1902.

Organisms grow readily in milk, and hence toxins can be rapidly developed in the intestines from infected milk. Osler and Park have demonstrated the susceptibility of milk to infection from typhoid, and how suitable it is for a culture medium; and the former states that in milk the typhoid bacilli undergo rapid development.

It is well known that in the acute intestinal disorders of infants and children, milk is contra-indicated, and barley water and similar preparations are advocated. There is an intestinal catarrh with typhoid fever. In spite of these facts, the majority of the profession cling to the old milk diet, because they have secured a certain percentage of recoveries, and prefer to disregard the fact that there is a better and more scientific method of diet.

In 1889 Dr. A. Seibert of this city first called to our attention that the temperature and tympanites of typhoid fever were lessened when milk was withheld, and advocated the use of strained gruels and soups with excellent results.

There are additional reasons against the employment of milk in this disease. I have already referred to the fact that during the active stage of typhoid fever, especially during periods of high temperature, there is marked derangement in the secretory function of the stomach. This is all conducive to the production of fermentative and putrefactive changes in the milk. It will curdle, none of the digestive transformations will occur, and it will be either vomited or more frequently pass by the bowel as a mass of curds. I am cognizant of one case at least in which the autopsy demonstrated a greatly distended stomach, filled with curdled milk, evidently the collection of several previous feedings.

This brings us to a second feature—the relation of the motor power of the stomach to milk—and to the various foods soluble in water, such as bouillon and strained soups.

Leube has determined the scale of digestibility according to the length of time the food remains in the healthy stomach, as under such conditions the secretory and motor functions generally go hand in hand. In disease, however, as in the case of typhoid fever, with diminished digestive function, the length of stay of the food in the stomach would bear more on the question of putrefactive or fermentative changes.

In health, water and foods soluble in water, such as bouillon and strained soups, pass most rapidly from the stomach; 200-250 c. c. are evacuated in 1 to 2 hours. Equal quantities of raw milk take at least an hour longer for complete evacuation—as demonstrated by lavage. Boiled milk is passed more rapidly than raw milk, cooking altering the curd formation.

In dilatation of the stomach, the same rules hold good, but the periods are longer, depending upon the degrees of motor insufficiency.

In various experiments during my service at the Manhattan State Hospital, Ward's Island, we found that if the milk were diluted one-half with water, the residuum found at a certain period was just about half what it was when pure milk was used, and there were fewer curds. If diluted two-thirds with water, a correspondingly increased quantity was passed from the stomach into the intestine and a smaller residuum was found. In fact, you know, this method of milk dilution is practiced in infant feeding for obvious reasons.

It is therefore evident, in the acute stage of typhoid fever, due to the diminution of the digestive power with diminished or absence of free hydrochloric acid, especially as raw milk under normal conditions leaves the stomach quite slowly, what the results will be as regards fermentative and putrefactive changes.

Moreover, the motor function of the stomach is generally diminished during the acute period of typhoid, whether diarrhea or constipation be present. In New York we have a large percentage of the constipated type, and in these I have found diminution of the motor function marked. Stasis we know is extremely conducive to putrefaction.

Regarding milk diet—if administered—I believe the following:

The greater the dilution of the milk with water or lime water, the less harmful the result. Sour milks I consider preferable, such as matzoon, bacillac, or other lactic acid milks. They should be well diluted. Koumyss contains too much gas and the addition of Vichy or carbonic, actively effervescing, to milk or matzoon is equally objectionable. The carbonated waters should be allowed to become flat. I am opposed, however, to the administration of milk or the fermented milks in typhoid fever.

Should you be interested in the *effects* of milk on re-infection, Emmet Holt in "Diseases of Infancy and Childhood," 1907 Edition, under "Acute Gastro-Enteric Intoxication," shows an interesting chart (Fig. 64) demonstrating acute re-infection in an infant 5 months old from development of bacteria after the administration of only 2 oz. of milk daily. Before administration of the milk, the tem-

perature had fallen to 99°, and after it had been given it rose to 106° F. and the infant died.

As to the *milk free diet*—I can fully substantiate Dr. Seibert. I have noted the tympanites and temperature lessened when milk was withheld, and increased when milk was again administered. With milk-free diet, my patients have had much less tympanites and the temperatures have run much lower and the disease has run a milder course. In fact by this method, combined with rectal irrigation and the ingestion of large quantities of water, the temperatures have generally kept below 102.5° F., so that friction bath (Brand), or the Nauheim bath could be omitted. I am the last one to decry the value of the Brand bath, but if the toxins can be eliminated and the temperature reduced by simple methods without manipulating the patient, it is certainly an advantage.

Dr. Seibert employs frequent rectal irrigations daily and gives nothing but water on the first day and thereafter 5 feedings at 3 hour intervals daily, consisting of half a pint of strained rice, oatmeal or barley soup, containing the extract of half a pound of meat and the yolk of a fresh egg well spiced. This is given for 4 days, and later the gruels are somewhat thickened. Dilute hydrochloric acid is also administered and large quantities of water. I will leave the full description of the method to the doctor, who is present this evening.

Osler significantly remarks: "It is possible that we give too much food, and of late years the disease has been treated by what has been called therapeutic fasting—little or no food, only water." He also states that alcohol is unnecessary in a great majority of cases.

The following, constituting a *Milk-free Diet*, are of service:

Strained rice, barley, oatmeal and chicken broths.

Strained thin pea, potato or vegetable soups, can be occasionally given for variety.

From one quart to a quart and a half, as the maximum amount of the broths, should be given during the 24 hours in divided doses every 3 to 4 hours, the last feeding no later than 9 p. m. It is well to vary the broths.

In marked nephritis, omit the chicken broth. Like Ewald, I have found Sanatogen, a sterile derivative of milk, of considerable nutritive value in typhoid. It is very soluble and readily absorbed. It can be given in divided doses, total amount $\frac{5}{8}$ ss. in 24 hours in the broths or water. Orange juice $\frac{5}{8}$ ii—iii can be administered 3 times a day.

Gelatin has a certain value as a food. Voit¹ has shown that though it does not build up new tissue, it may diminish tissue waste; and Kirchmann² demonstrated that gelatin spares proteid in metabolism.

The ingestion, for example, of 7.5% of the total heat requirement of the organism, in the form of gelatin, spares 23% of the body's proteid. On the basis of an equivalent of 60 to 100 gm. of proteid daily, approximately $\frac{5}{8}$ i— $\frac{5}{8}$ ii of gelatin in 100 $\frac{5}{8}$ (12 1-3 $\frac{5}{8}$) of water (a 1% to 2% solution) is sufficient. It can be flavoured with orange, lemon, vanilla or a pinch of sugar.

To stout persons I give no gelatinous food, but only to thin patients, or when there is a tendency to rapid loss of

weight; for example, 12-14 $\frac{5}{8}$ of a 1%-2% solution of gelatin and a quart of gruel in the 24 hours. Gelatin further possesses the advantage that it *does not yield indol* (Herter). It lessens the tendency to hemorrhage, but is contra-indicated when there is thrombosis. It may be objected that gelatin is a good culture medium; but $\frac{5}{8}$ 12 of a 1%-2% solution is readily digested given in divided doses and is a negligible factor; as would be a similar quantity of a 1%-2% solution of milk in water, distributed in $\frac{5}{8}$ ii doses during the 24 hours.

A large amount of water should be administered at least 2 to 2 $\frac{1}{2}$ quarts in 24 hours in divided doses. Dilute sulphuric or nitro-muriatic acid in proper doses may be added to this. It renders the water slightly acid to the taste and stimulates the gastric secretion.

When the temperature reaches 102.5° F. I stop all nourishment, giving only water 3 to 4 quarts in 24 hours, as an aid to elimination through the kidneys; flush the bowel more frequently and employ alcohol and water sponging. I have found the Brand bath rarely necessary as the temperature soon falls to below 102.5° if this method is carried out. This corresponds to Seibert's observations.

As to stimulants, strychnine and camphorated oil are preferable to alcohol.

I will close with a few remarks on the value of intestinal irrigation in typhoid fever. It seems a curious fallacy that certain physicians employ it in the gastrointestinal disorders of infants and children, in colitis and in dysentery, and yet fear to use it in typhoid fever, or deny its efficiency. You will also observe that many authors make light of constipation in typhoid, and refer to the necessity of

¹ Hermann's Handbuch, 1881, p. 396.

² Zeitschrift für Biologie, 1900 Bd. XL p. 59.

using the enema every other day, or even less frequently. One should remember, however, certain scientific facts:

1st. Fatal auto-infection can occur with constipation. Holt reports such cases.

2nd. The stool consists in large part of bacteria, many millions in number.

3rd. Bowel movements occur even after the abolition of food, and they consist chiefly of bacteria, mucus, epithelia, etc.

4th. If by operation, a portion of the intestine be made to terminate in a blind pocket, accumulation may occur therein and even ulceration and perforation result, though no food remnants enter the pocket.

Though the bowels may have been supposedly thoroughly cleansed by catharsis, and only water or soluble broths have been administered, it is surprising the amount of material cleared out by enteroclysis. One can employ a simple enema of normal saline solution once or twice a day, with an s. s. enema each morning; quantity one liter each—the s. s. injection at 105° F. and the saline at 110°-120° F.

If there is much tympanites or difficulty for the patient in evacuating the injection, two catheters or the recurrent rectal tube can be substituted. Usually I irrigate with the latter morning and evening, employing several quarts on each occasion as routine.

It may be necessary to irrigate more frequently. I believe the use of enteroclysis is one of the most important features in the treatment of typhoid fever, and Dr. Seibert will substantiate this statement, acetozone 1-1000 by irrigation, (several quarts) daily is also of service.

The only contra-indications are hemorrhage and peritonitis. By the irrigations, the small intestine is emptied out into the large intestine, and *this in turn* cleared out; absorption from accumulation in the colon and rectum is prevented, and hence toxemia is lessened and the temperature is reduced; gas, if present, is removed from the bowel; the large intestine is kept clean, and elimination of the toxins, through the diuretic action of the injections on the kidneys, is promoted.

In conclusion, I trust that my remarks may be productive of a discussion among your members, and that some of you at least may be induced to give the methods described the benefit of a fair trial.

107 East 57th St., New York.

"FEES" OF PHYSICIANS AND SURGEONS.

BY

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How often have you overheard the remark that Dr. so and so has charged Mr. so and so five hundred or one thousand dollars for an operation, which the speaker comments on as outrageous or an exorbitant price for the services; then you will hear the speaker say that this or that doctor would have performed the same operation for one hundred dollars and done it just as well as the man who received the larger fee. The law says the value of the services of a physician or surgeon may depend upon a variety of circumstances, as for instance the nature and character of the disease or other physical or mental affliction of the patient; the amount of knowledge and skill required in the treatment; the circumstances

under which the services are rendered; the difficulties and expenses attending them; and the responsibilities developing upon the attendant. It would seem, moreover, that a physician in charging for his services may properly consider the patient's ability to pay.

In a case where a physician claimed \$2,000 for services in operating upon a cancerous stricture of the oesophagus, and it appeared at the trial that the patient's estate was of a value between seven and eight thousand dollars, when the jury rendered a verdict for only \$500, the Supreme Court, on appeal, increased the amount to \$1,000.

It would appear on general principles, that, if a judgment is recovered by a physician or surgeon against his patient for services, the latter cannot afterwards maintain an action against the former for malpractice in performing the services, especially if the latter had knowledge of the alleged malpractice and could have interposed it as a defense to the original suit, and have claimed therein damages for the alleged malpractice, by way of counterclaim.

In various states, there are statutes regulating the collection of fees of physicians and surgeons and the practice of medicine. In some states physicians cannot recover for their services unless they have a diploma and in others unless they are licensed to practice medicine by a board appointed for this purpose under the statutes.

If a physician carried a contagious disease into a family, on a suit for his services this may be shown to defeat his right, or to reduce the amount of his claim. And an agreement between physicians whereby, for a money consideration,

one promises to use his influence with his patrons to obtain their patronage for the other, is lawful and not void as contrary to public policy.

A colleague of mine recently had an experience which I will quote in his own words.

"I was recently asked by a colleague to testify in his behalf in court in a suit for the collection of a bill of \$100. I was asked to testify that this was a just amount for the services rendered. The services rendered were as follows: Dr. A. (my friend) had been called one August afternoon to a boarding house by the sea shore (where he was practicing in the summer). When he got there, he found some dozen or so people prostrate on the lawn before the house. He went upstairs where he smelled an atmosphere to which he almost succumbed. He at once joined others in carrying out people in various grades from sensibility to insensibility still in the house. One of these people died; the rest were in great jeopardy of their lives. My colleague suffered for several days from the effects of the atmosphere he breathed in this house. This atmosphere was saturated with the fumes of some form of prussic acid. The fact was that the house in question was infested with rats; and these fumes had been generated for the destruction of the rats. My colleague with three other physicians, worked hard during some three hours to restore these people, all of whom, except one, recovered. Hypodermatic injections of various drugs were made; there were cold effusions; oxygen was used. My colleague himself, assisted in carrying the sick from the house into the open air. Everything that could be done, he did to his utmost and in the most

humane spirit. During his work there appeared upon the scene a man named B., a retired butcher, whose aged wife A. treated as he did the others. B., so A. testified, had told him to proceed, to spare no expense or labor or necessities, and that he would pay him for his services. To the question 'was \$100 a proper charge to make under these circumstances?' I answered that I considered it a very proper charge. B's attorney presently 'took me in hand'. He wanted to know 'upon what I based my opinion of the value of the services rendered.' I answered 'upon the length of time in which A. had worked; the number of people (seven or eight had been treated by him); the very unusual gravity of the situation, as evidenced by the fact that one person had already died from the fumes; that the greatest skill, experience and exercise of the physician's faculties had evidently to be called into play if the lives of the others were to be saved. All these things were to be considered in fixing a charge for services rendered.' I commented upon his devotion and humanity in working most faithfully under conditions jeopardizing his own health. There B's attorney had me; I was rash indeed to speak of sentiment or of humanity in the environment of that court room. He interrupted my 'fine speech,' as he termed it: 'was A. charging for his humanity?' I considered no, I said; however, it seemed pertinent to observe that, though humanity prompted physicians to treat the poor without charge, I did not understand that in this case B. pleaded poverty. I did not understand why here a just and reasonable bill should not be rendered. Physicians, I maintained, had somehow to live; they had

duties to perform; bills which they were expected to pay; natural obligations which were very dear to them. Next this lawyer wanted to know how I would charge in detail; evidently in such cases the courts expect physicians to itemize their bills. But I think you will see here how unjust and impossible in all fairness is such a demand on the part of the court. How much, this lawyer demanded, would I have charged for a hypodermic injection, for one administration of oxygen, etc. etc. I told him that medicine was a profession, not a business; a hypodermic injection made with the purpose to save a life, when that life was in the greatest and most imminent peril, was not precisely a thing to be sold like a pound of meat. My friend A., I am glad to say, won his case."

The following incident is instructive, and I confess I am with the doctors concerned in it. In Charenton in the neighboring French communes the doctors formed an association and devised and issued a schedule of fees for all patients except workmen, the tariff being frankly based upon the worldly condition of the patient and also the bodily comfort of the physicians; the underlying principle here was that a Kaiser or a Rockefeller should pay better for an amputation of his precious leg than for a similar operation on a poor workman. According to this schedule workmen would be charged 3 francs (60 cents as before); trades people, well-to-do employees and small landholders, four francs; great merchants five francs, during the day. Between 7 and 10 in the evening and on Sundays and holidays afternoons the price was to be doubled. From 10 p. m. to 7 a. m. the price would be ten francs (\$2.00 flat).

Immediately all classes protested against these "extortionate fees" and against the "pretensions of these physicians, which are against good sense and contrary to the laws of humanity." Meetings were organized to put through measures to safeguard the community against the scandalous demands of the doctors. Now, it seems to me the difficulty here must have arisen when the physicians permitted themselves to be paid fees which must have been even smaller than those of the schedule here stated. Their reply to the objectors was: "It is necessary for us to live; we are not apostles. We are just people who live by our calling. The cost of living increases and we must meet it." They might well have added that the apostles themselves were instructed by their Master to demand meat and drink for their ministrations, on the just principle that "the laborer is worthy of his hire." I think, for my part, it is a very good answer to make when one's charge is called in question, that it does not, whether adjusted to the circumstances either of rich or poor, quite come up to the value of one's services, which are, as a rule, quite beyond the ability of most people to remunerate adequately.

Now, as regards the medical specialist. But recently, in some cities his deplorable propensity has been emphasized of requiring a thousand dollars, or certainly not less than five hundred, to be placed in his palm, not upon the completion of his job, but *before* he will consent to put the knife to the cancer, or the anesthetic to the nostrils. Those virtuous Christian Scientists, who have never been known to exact a fee, are joining in the denunciations which from time to time consume no little space and respiratory

exertion in the press, the pulpit and the courts. The specialist is being held up in his true light in the contemporary novel, as witness Mrs. Wharton's "Fruit of the Tree," where not only one, but two medical rascals are presented; and in Mr. Martin's work, "The New Religion" we see shown up a caste conspiracy between the ordinary practitioner, the specialist, the druggist and the managers of hospitals and sanatoria. (Seriously speaking, such schemes of dividend bonuses are rightly reprehensible in our medical ethics; but legally, as I have noted, there is no objection to it.)

I make no question that some lay impressions of medical chicanery and of overcharging are not absolutely without foundation; to deny this would be to claim moral perfection in our profession, a thing non-existent anywhere in the universe. And the Evening Post (N. Y. C.) is right in stating that "physicians who would conspire to keep a rich and confiding patient in terrified suspense while they invented fresh treatments and tortures would be guilty of a cruelty and treachery compared with which the barbarities of the Indians are merciful." Yet when the laity speak of black sheep, we are entitled to ask if any calling—commerce or the law, or the pulpit for that matter, is free of such. Certain it is that physicians of this stamp are not to be found (at least they are not known) in reputable medical councils; high minded practitioners do not consult them; humane medical men, who are, of course, vastly in the majority, despise them and their works, and exult over them when righteous judgments penalize them for their iniquities. And if we may for once in a way drop the professional aspect of the matter and look at it as most

people do—in a business light, we might well ask the layman, if he finds Dr. A.'s charges for operation too high, why does he not engage Dr. B. or another to do the work? The matter in the end reduces itself to one of supply and demand. Is A.'s name world-famous? Then let his name and his fame be paid for. But medical men know full well that any operation A. can do, can be done equally well or at least adequately well by fifty others, whose charges would be cheerfully adjusted to the poorest means; nay, among these fifty there would very likely indeed be those who could do the work better than A., and whose only misfortune is not in lacking qualification, but in that their names do not happen to appear in the pages of *Who's Who*. The practice among the laity of bandying about the names of notable physicians, as they do those of brilliant operatic performers is to be reprehended.

The Evening Post is here quoted by way of animadversion; it is due to this excellent newspaper and to our profession to quote from its columns also sentiments of praise, as follows: The development in medical science, it notes, is due to the incessant labors of the specialist. "The resulting benefits to mankind, as in the case of diphtheria antitoxin, cannot be reckoned in money. An inventor who should expend half the time and skill on a contrivance of infinitely less intrinsic worth might easily win a fortune. But the medical specialist reaps no reward whatever, beyond, perhaps, a slightly increased practice due to his added prestige. Often, indeed, he deliberately sacrifices his practice to the advancement of science. For every new discovery in medicine and surgery, every new specific, every new

process or device is at once offered freely to the whole world. The doctor who makes a secret of his drugs or operations is instantly ostracised. Generalizations are dangerous, but it is safe to say that no one class of men has given mankind so much and received so little material reward as the medical man. His greatest recompense is the consciousness that he is the servant of the ideal."

Almost every medical society has a fee table, but I do not think any schedule of fees that a society sets up should be understood to require rigid compliance with it on the part of the members of the society. Such a schedule is, of course useful in court as a statement of the average fee or standard of fees charged in the locality lived in by the parties to any suit in law. A man who is able to pay should pay well for an operation that saves his life. This same man would not hesitate to pay a large fee to his counsel for transferring a deed, or for services rendered in a law suit—some men would pay twenty-five thousand dollars for the necessary papers legalizing corporation interests, but kick like a mule if a surgeon charged him one thousand dollars for saving his life.

When you hear a patient speak ill of a physician, take it with a grain of salt. The patient as a rule owes this particular doctor a bill which has remained unpaid and perhaps always will. Just so soon as a physician attempts to get judgment against a patient for services rendered, that physician is usually the target for a lot of unkind epithets. The physician's bill should be the first one to be paid. Pay him before you pay the tradesman and you will receive better services; when you want him, you expect him in a hurry, why not pay him accordingly?

PRACTICAL POINTS IN THE SUB-MUCOUS RESECTION OF THE NASAL SEPTUM.

BY

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The operation of choice for deviations of the nasal septum, is the submucous resection. Unfortunately, this most important operation, is perhaps the most difficult of all intranasal operations. Theoretically there is nothing simpler yet the beginner finds himself in all sorts of difficulties which he can only overcome by appreciating that each septum to be attacked is an individual problem and that no hard and fast rules can be laid down any more than in operating for a specified intra-abdominal condition.

The most essential points in doing a submucous resection are the following.

1. Have good illumination.
2. Anesthetize the mucosa well.
3. Make the cut for the flap clean.
4. Have as little hemorrhage as possible.
5. Be careful to break up adhesions.
6. See what you are doing all the time.
7. Don't pack the nares too tightly after the operation.

8. Keep the nose clean post-operatively.

1. *Illumination.* The best illumination is obtained indirectly from the rays of an electric lamp reflected from a head mirror. It is most important that a good view be obtained of the posterior portion of the nares. A three inch mirror with a three-eighths or half inch opening is more restful to the eyes than a large mirror with a small opening.

2. *Anesthesia.* The ideal local anesthetic for all intranasal work is a combi-

nation of cocain and adrenalin. A 1-2000 solution of adrenalin mixed with equal parts of a 4% cocain solution works admirably. The success of the submucous operation depends upon the ability of the surgeon to anesthetize the mucosa well. There are numerous ways of applying solutions to the nose but for submucous work the most effectual way and the one that gives the least toxic effect is by applying the cocain solution on pledgets of cotton instead of swabbing and injecting. The following method of applying the anesthetizing agents has been found very effectual:

A strip of absorbent cotton about three inches long and one-half inch wide is dipped in the cocain solution and pressed out flat so that the cotton is merely damp. The strip is placed against the anterior part of the septum and is pushed back by means of a probe the end of which is slightly bent, until the whole strip is entirely within the nose. The first strip lies partially along the floor of the nose. Two or three other strips are applied one on top of the other until the entire mucous surface of the septum is covered. Care must be taken that the middle turbinates are well anesthetized, especially if the deviation is far back or the turbinates impinge upon the septum. The other side of the septum is treated in the same manner.

The strips of gauze are left in from twenty minutes to a half hour. When they are removed, the mucosa of the entire nose is anemic and the membranes covering the turbinates have receded. However there are probably numerous areas which are still not well anesthetized as it is almost impossible to get beyond the middle turbinates and the most super-

ior portions of the septum. These parts are best reached by a cotton applicator dipped first in a solution of 1-1000 adrenalin and then in pure cocain. Five to ten minutes spent in using the applicator will well repay the surgeon. The anesthetization is completed by applying a strip of adrenalin gauze against that portion of the septum where the incision is to be made.

3. *The Incision.* The incision should be made on the convex side. Its depth within the nose should be determined by the limit of the triangular cartilage. In other words the incision should be 2-3 millimeters posterior to the triangular cartilage, should be started up as high as possible and continued straight downward well out into the floor of the nose. The cut should be *clean* and *straight* and down *through* the perichondrium to the cartilage. Unless the incision reaches the cartilage, in separating one is likely to run the separator between the mucosa and the perichondrium, making the separation very difficult and causing considerable hemorrhage. Moreover, an irregular and ragged incision predisposes toward tearing the flap in which case the result may be worse than the condition was before.

4. *Hemorrhage.* Hemorrhage may be so profuse that it may be necessary to stop the operation at any time. Bleeding may be prevented by thorough cocainization and adrenalinization, by making a clean incision down to the cartilage, by avoiding tearing and by using care in lifting up the flap from the floor of the nose, exposing the maxillary crest. In fact it is the separation of the flap at its inferior angle which gives most trouble as the soft parts are very vascular and the adrenalin rarely infiltrates to a sufficient depth. Again a

great deal of bleeding may arise when the flap is not well separated and, on removing the bone, some of the soft parts are torn away.

5. *Breaking up of Adhesions.* As a rule, more adhesions are present on the convexity of the septum than on the concavity. But where a sigmoid deviation exists or where the deviation is far back in the nares, it is a very difficult matter to separate the flap and to be sure that it is separated at every point. However, unless the bony and cartilaginous parts are absolutely free, disastrous results, such as tearing of the flap are likely to follow. The hardest part of the membrane to separate is *behind* the deviation. No matter how difficult the case may be, if a clean incision has been made and there is no tearing, with consummate patience, the adhesion can be separated with a blunt or sharp elevator. If the adhesion cannot be attacked from in front, the cartilage and bone can be removed piece-meal until one is able to get behind it. If the adhesions are rigid on the concave side, especially in the anterior portion, it may be necessary to make an incision on this side too. Under such circumstances, the incision should be made in front of or behind the one on the opposite side. Unless this caution is observed, a permanent perforation of the septum is likely to result.

6. *Clear Operative Field.* No good operative work can be performed, unless the part to be operated upon is in full view all the time. Working in blood and mucus, without good illumination, and striking haphazardly at anything that comes into view, in other words guessing most of the time that what you are doing is the right thing, will merely tend to de-

stroy true anatomical landmarks. When one is "lost" either in the nose or abdomen or anywhere else, he may as well give up the job, for more tinkering means worse destruction.

We assume, of course, that the operator has a clear knowledge of the anatomy of the nose. To see what one is doing *all* the time is necessary and can be accomplished by making a clean incision, by separating carefully and keeping the parts free from blood by patiently wiping the blood away with cotton applicators. One important point in obtaining a good view is the thorough separating on the floor of the nose. If the incision has been carried out far enough and the separation has been thorough, the flap will balloon out and will stay against the lateral wall of the nose, if the patient is told to breathe through his mouth. Oftentimes a better view between the flaps is obtained by using a Killian speculum. It is wise to observe the rule that every piece of bone which is to be excised is perfectly free from every attachment and under no circumstances should it be torn from the nose.

7. *Packing the Nares.* When the operation is finished the muco-periosteal and perichondrial flaps should hang straight and the edges of the incision should be so closely opposed that no suture is necessary. The unoperated side should present no raw or bleeding surfaces. The flaps should be kept straight and opposed by suitable intranasal packing. The ideal packing consists of strips of gauze bandage, about three inches long on which has been applied a thick coating of bismuth subnitrate. The gauze should be folded to three to four thicknesses and one packing placed upon the other until both nares

are well filled. The packings should be lightly put in place and sufficient allowance made for the mucous secretion which will increase their size. The patient experiences great discomfort if too much packing is inserted. Better drainage is instituted and the flaps maintained in place just as well if just the proper amount of gauze is inserted and no more. Bismuth subnitrate gauze will remain clean and sweet for a considerable length of time. The writer had a patient in whom the gauze was unavoidably left in place for over seven weeks. When it was removed there was hardly any appreciable odor and had done no harm. Packings, as a rule, should be removed in forty-eight hours, although the time should vary somewhat with the individual patient. For example, in patients with ethmoidal or sphenoidal diseases, the packing should be removed in twelve to twenty-four hours and reinserted if necessary.

8. *Post Operative Treatment.* After packings are removed, post-operative treatment is simple. The patient should use an alkaline nasal douche three times a day and the nares should be cleaned out by the surgeon every other day. Applications of silver nitrate (4-10%) may be applied to the incision to stimulate healing but this procedure is seldom necessary. The inflammatory reaction and swelling which occurs, subside in the course of a few weeks if the nose is kept clean and free from mucus and crusts.

11 West 91 St.

Before making a diagnosis of otitis be sure that the discharge from the ear is not due to a furuncle in the external meatus—a mistake occasionally made in diseases with ear complications.

HISTORY OF THE LAZARETTOS OF GUIANA.¹

BY

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It is very difficult to tell the exact date when leprosy first made its appearance in Guiana.

It is probable that the disease was introduced about the middle of the seventeenth century by the negro slave trade; what makes this more likely on the one hand is, that leprosy is common in Africa, and on the other hand, according to many authorities, that no Indians have acquired the disease.

The first writings referring to leprosy in Guiana are the memoirs of Bajou, of Cayenne, published in 1777, and the reports of Poissonnier-Desperières on the *Mal Rouge* (1785), the name by which leprosy is known in Guiana: no other publications to our knowledge mention leprosy prior to 1824.

A file of the "Bulletin de la Guyane" which we have been permitted to examine, contains no earlier reference.

So far as we can determine, the first leprosarium established in Guiana was that on l'Isle du Diable, one of the islands of the Salût group, situated 27 miles north-west of Cayenne. This island, reserved for a general lazaretto, was, from the first transportation there to 1895, kept as a leper colony, the number of patients at that date being 18.

At this time all the lepers were transferred to an islet of Maroni, called St. Louis or Leper Islet, situated about one mile from St. Lawrence. Now the lepers confined to this islet number about 40, a dozen of whom are negroes or Arabs; among these a few did not become infected with the disease in Guiana. Their isolation is carefully guarded; a physician visits them each week, and oftener if necessary.

Within the last four or five years, the location on the isle has been greatly improved, cottages have been built for each leper, a garden is given to each leper able to till it, and flowers have been cultivated for the beautification of the place. To M. Jarry, superintendent of the St. John Penitentiary, is due the credit for these ameliorations.

We have seen that the "uncondemned" lepers until 1833 were housed on l'Isle du Diable; in 1832 this location was found to be undesirable, the soil being arid, the lepers themselves badly lodged, and far from conveniences, while drinking water was hard to get. At this time, Mother Jahouvay proposed to the government that the lepers be transported to a location at Acaronany which had been deeded to her, and which she had intended as "a labor of love" to provide as a place for negroes who should later receive their liberty.

In 1883 by order of the governor, the leprosarium was opened there, and about 80 lepers were received therein.

In 1840 the number of white and mulatto freemen who were lepers, having greatly increased, drastic measures were taken to remove them to a lazaretto on La Mère islet near Cayenne. This was discontinued in 1848, on the liberation of the

¹Translated from a special report of M. M. Jeanselme and Tissier.

slaves, leaving only the lazaretto at Acaronany which is maintained at present.

This settlement is situated on the shore of a small river, the Acaronany, an affluent of the left stream of the Mana. The building is placed on a high plateau on the left bank of the stream whose steep sides forbid descent except with difficulty. The location seems satisfactory in nearly every respect; it is isolated being in the center of a forest about 30 kilometers from the nearest village; water is abundant there being two springs near by, and the river which flows below could be made to furnish water for ordinary uses. The land on which the leprosarium is built is of considerable extent, and the area can be increased; usually transportation facilities are good, as the village of Mana only 30 kilometers away by water, is reached in about five hours; though, by land, this village is only 12 kilometers distant, but, so far, there is neither road nor trail connecting it with the leprosarium.

Mana is situated on the left bank of a stream of the same name, some 14 kilometers from its mouth; boats of 15 to 30 tons put it in communication with Cayenne, which lies in a south-easterly direction 200 kilometers away, an overland route 218 kilometers long connecting the two. A route from Cayenne to Ivaucaubo, if not easily traversed is, at least, passible for horsemen and pedestrians, but this last route is not good in winter, the swamps and fords rendering the journey impracticable.

As may be seen from this short account, it would be hard to find a more suitable location, or one furnishing better conditions required for an adequate leprosarium, but, unfortunately, outside of the dwellings occupied by the medical super-

intendent, the Sisters, and the superintendent, which are comparatively comfortable, and aside from a store and a bakery fairly installed, the hospital proper reserved for patients, leaves much to be desired.

This consists of two buildings 20 meters in length and five in depth, one for men and the other for women; two sheds of rough boards forming a room of low ceiling; a shed in which are ranged two rows of shelves serving as beds for the patients. Each bed consists of three boards resting on supports, and covered with a blanket.

Each of these buildings will not properly accommodate over a dozen persons, but for several years there have been 19 inmates; there are 300 lepers in Guiana who if the laws were enforced, would be inmates of Acaronany.

The different buildings are so arranged that those reserved for administration and hospital annexes, are near the river, the latter and the forest which surrounds it on three sides, being the portion reserved for patients, so we see that it would be easy to enlarge the hospital by encroaching on the forest, and to separate the lazaretto into two distinct portions by a partition, forbidden inmates to cross. Thus they could not enter the part used for non-leprous residents, nor bathe in the river, nor go there to wash their clothes. It may be remarked, too, that the easterly breeze is that which almost constantly sweeps over the plateau of Acaronany, and the administration portion of the lazaretto rarely gets any wind from the quarter where the lepers are housed.

These unfortunates instead of being crowded into such rooms, should be

graded according to the stage and condition of their disease, placing together those who are still in tolerable health and able to do some work; in a second place, those somewhat less able to help themselves, and in a third apartment, all those so far advanced as to be utterly incapacitated for labor. It would be wise to lodge those of the first and second classes to the number of three or four, in separate cottages, where they could care for themselves as they have been accustomed to do; these cottages to be surrounded by a small garden where they could cultivate a few vegetables, thus giving pleasure and employment to the lepers of different nationalities (like the Annamaninites, Indians, Arabs and Mulattos), occupying them, and avoiding the quarrels now so frequent among them; while the helpless could be placed where they might be cared for in part at least, by able-bodied lepers.

As regards the provisioning of the institution, all is defective. The regulations of 1892 provided generously—at least on paper—a hygienic diet, wholesome and abundant; but in reality, the Creoles and mixed races eat salted meat seven days out of the week.

During six days the following rations are supplied:

Four days, codfish of poor quality.

One day, salt beef.

One day, salt pork.

The seventh day this diet is set aside for 200 grammes of *endaubage*.

The European lepers who are more favored, get salted meat during only four days of the week.

Mana despite its importance, cannot supply the necessary amount of fresh meat, as they slaughter only one animal

a month, and it is very necessary that a pasture for stock be established on the tract of land owned by the leprosarium.

If in this direction amelioration is needed, what shall we say for the medical part? Not only is the hospital without a morgue or autopsy room, and a laboratory, but it has not had any surgical instruments for some years, and to cap the climax, the administration has just removed the resident physician!

As we see, we are far from having done for our lepers what other countries are doing; and we are far from the time when we might say, as Dr. Pain of Cayenne said of the leprosarium at Trinidad,—“It gives one the impression of a village occupied by well-to-do citizens.”

To what may we attribute this state of affairs except to the indifference of the administration which, although the evils multiply, contents itself in making laws that are never enforced?

“We see in Cayenne”, writes Dr. Pain, “no amelioration in the condition of those afflicted with this cruel disease; we see daily promiscuous contact among the healthy and those in the most pitiable stage of advanced leprosy.”

The following is from a letter we received from Guiana the other day:

“Since the work done by Clarac, nothing has been done at the Acaronany hospital to better the condition of the lepers there; Guiana is ashamed of it yet afraid to render complaint. We shall always have to regret the want of energy which prevents any radical measures being taken against the spread of this fearful plague.”

M. Clarac says: “Leprosy in Guiana is a veritable curse; it is gradually day by day attacking previously exempt families, and infecting every section.”

SOME REMARKS ON THE PRACTICAL VALUE OF CYSTOSCOPY IN SURGICAL DIAGNOSIS.¹

BY

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The advances in present day surgery of the kidney, bladder and ureter have been based mainly on the improved methods of examination. The recognition of the functional ability of the kidney is an absolute prerequisite to operative success. In fact, it may be stated that the task of making a perfect diagnosis ranks on an equal footing with the operative procedure itself in this branch of surgery.

Among our modern methods of examination cystoscopy stands well in the foreground. In order to detect pathological changes by the aid of the cystoscope it is naturally necessary that the normal appearance of the bladder should be well comprehended. In the healthy bladder the mucous membrane appears of a yellowish-pink color, sparsely supplied with blood vessels, except at the trigone, where the blood supply is stronger, especially at the prostate in the male and the internal sphincter in the female. The internal sphincter in the female appears as a smooth fold, except when inflamed, when the line is irregularly scalloped. Trabeculae may be present even in the normal bladder, especially at the fundus.

Inflammatory changes of the bladder manifest themselves by a greater redness and a velvety lustre of the mucous membrane. In the case of a more severe cystitis there will be found pieces of mucus which may be found firmly attached or may partly float, simulating

shaggy tumors. If the cystitis has caused bleeding, the blood is apt to adhere to these flakes of mucus, coloring them red, thus still further simulating villous tumors. Ulcers are rarely present in catarrhal cystitis. If present in fairly good size, the suspicion of tuberculosis is well founded. If ulcers or tuberculous nodes are found near the ureteral orifices, the diagnosis is assured, and in those cases the tuberculosis is not primary in the bladder, but secondary to tuberculosis of the kidney.

The value of cystoscopy in detecting foreign bodies or stones is so well understood that it merely needs to be mentioned. It is by no means always possible to detect a stone or foreign body by means of a stone-searcher, whereas the cystoscope readily detects them. But even here there is a possibility of error. I quite recently had a patient who told me that he had been suffering from bladder symptoms for a number of years. He had had a cystoscopy performed, after which he had been informed that he was suffering from prostatitis, cystitis, bacteriuria, etc., for which he was treated without success. When he came to me I ascertained with perfect ease the presence of a fairly large sized phosphatic calculus. So it may happen that even with the cystoscope stones may be overlooked. This case impressed me particularly because the patient happened to be under the treatment of a physician who is a very well known specialist in genito-urinary diseases.

In regard to tumors, the diagnosis is easy if there is no cystitis present, but in the case of malignant tumors they are, as a rule, accompanied by cystitis, the presence of which makes the diagnosis more difficult. It may be necessary at times to

¹Read before the Eastern Medical Society of the City of New York, March 12, 1909.

cut off a portion of the tumor in order to establish the diagnosis.

The surgeon is particularly interested in the value of cystoscopy in diseases of the kidneys, and also in the differentiation between diseases of the kidneys and other organs. Certain abdominal conditions are sometimes cleared up by means of the cystoscope. Take for instance a patient with colicky pains. In some of these it may be impossible to tell from which organ the pains come, because there may be insufficient palpatory signs and the condition of the excrements may not be sufficiently characteristic to clear the case. The secretion of clear urine from the bladder does not exclude renal colic, as one of the ureters may be blocked. Should the cystoscopic examination, however, show that urine is normally secreted from both sides, then we should look for the cause of the colicky pain elsewhere. On the other hand if the cystoscope should show normal secretion from one side while on the other it is either absent or replaced by the discharge of a cylinder of pus or blood, our attention would at once be directed to the kidney of the latter side.

In the diagnosis of abdominal tumors the cystoscope may at times be helpful. In the case of a large hydronephrosis the secretion from the corresponding ureter is either absent or very much diminished. These cases of hydronephrosis cannot always be differentiated from tumors of the liver, pancreas, spleen, mesentery or ovaries. I was called to see a patient with intestinal obstruction which was cured without operation. It became evident after the tympanites had gone down, that the obstruction was due to the pressure of a tumor situated in the left side and middle of the abdomen. It was made out to

be cystic, and after blowing up the colon, its relation to that organ proved it to be situated retro-peritoneally. Without going into details, the differential diagnosis finally lay between hydronephrosis and cyst of the pancreas. Cystoscopy showed both kidneys to functionate normally; therefore, the diagnosis of cyst of the pancreas was made. I operated on the patient and the operation proved the correctness of that conclusion. The cystoscope, therefore, in a number of these conditions gives us a clue, even in diagnosing disease of an organ at a distance from the kidney, by the negative findings.

On the other hand, suppose we find that there are changes in the urine. We must then find out first whether the disease is in the bladder, the kidneys, or both. And secondly, if the kidneys are the seat of the disease, which one is diseased, and whether the other kidney is a well functioning organ. Let us take the presence of blood in the urine. The probable diagnosis as to the source of the blood was formerly made from the color and the changes which the blood had undergone. Any diagnosis arrived at in this manner is liable to a great many errors, whereas the cystoscope gives at once a positive answer. Anyone who has ever seen the pretty picture of a hemorrhage from one ureter will never forget it. I recently had the pleasure of demonstrating to some colleagues the cystoscopic picture in a case of haematuria. There was a perfectly normal bladder and a normal discharge of clear urine from the left ureter, while from the right side clouds of bloody urine were discharged. It made a very pretty picture.

In cases of cystitis the catheterization of the ureters may be dangerous, inasmuch

as it may cause infection of the kidneys. In such cases the bladder should be very carefully washed out beforehand, and, preferably, should also be treated for a few days, before catheterization of the ureters is begun, and the catheter should not be introduced too far. Its use in the presence of cystitis may be exceedingly difficult. The ureteral openings may be hidden between swollen folds of mucous membrane, or under flakes of mucus, and if ulcers are present the entire surroundings may be so changed as to render an interpretation of the picture at the trigone very difficult. In such cases chromo-cystoscopy will help us. The intramuscular injection of 80 milligrammes of indigo-carmin will in about ten minutes color the urine as it appears at the ureteral orifices.

To the surgeon one of the most important fields of cystoscopy is in the diagnosis of tuberculosis of the kidney. This disease is usually divided into three stages. In the first stage the tubercular foci are small, the affected tissue is not yet broken down, and there is no communication of these foci with the pelvis of the kidney. Consequently at this stage there is no pus in the urine and the ureters and bladder are not yet involved. The only change is polyuria, doubtlessly due to an irritation of the secreting cells by the tuberculous foci. The cystoscope in that stage cannot help us very much except, perhaps, to determine from which side the polyuria comes. In actual practice we are almost never confronted with this difficulty because patients are not in the habit of consulting us until their urine begins to be turbid and bladder symptoms make their appearance; and these symptoms are characteristic of the second stage of tuberculosis of the kidneys. Pus will

be brought down into the urine and infection of the bladder will follow. The frequency of micturition, the pain and tenesmus are all explained in the earlier stages by the presence of pus which irritates the bladder. Later on it is caused by the involvement of the bladder. In this stage the cystoscope shows its great field of usefulness. Opaque nodes are then found near the ureter, surrounded by hyperaemic zones. These nodes break down, forming small ulcers which by confluence form larger ulcers. These ulcers are apt to be covered by mucus which may assume strange forms, simulating shaggy tumors, especially if covered with blood. As the disease progresses the capacity of the bladder becomes less and less and micturition more and more frequent. When cystoscopy is performed in this second stage a single glance will often indicate the condition at once to the experienced observer. The ureteral opening, instead of being a narrow slit is more roundish. The margins of the ureteral orifice instead of being a fine delicate structure are somewhat thickened, and on ejaculation of a jet of urine it remains more or less motionless in comparison with the healthy ureter, which shows a delicate wave-like motion of the parts around it, just preceding the ejaculation of urine, which centres itself into the ureteral orifice, and which, when the spurt is over, ends in a prompt closure of the opening. As the disease goes on, the ureteral orifice becomes more and more stiff and thick, and, as we see it, we appear to be looking into a deep hole, from which we may see particles of pus or cheesy matter oozing out. This gives a very characteristic picture of the second stage of tuberculous nephritis.

In the third stage the contraction of the

bladder has become so marked that it is no longer possible to introduce a sufficient amount of fluid to make cystoscopy possible. A few months ago I operated on a case of this nature. It was impossible to introduce even as much as 40 c. c. of water. The diagnosis was made on the presence of a large, tender kidney, whereas the other kidney could be felt and appeared to be of normal size and consistency. The operation was performed, removing the kidney and the entire ureter. The patient made a good recovery, and the wound healed by primary union, but in the fourth week the patient developed tubercular meningitis and died. This is an example of cases in which cystoscopy cannot help us. The fault, however, does not rest with cystoscopy, but with the neglect to do it early enough. If it were performed at once in doubtful conditions, we would not have to operate on so many tubercular kidneys, after they have passed the earlier stages. The prognosis is very very much better the earlier it is done, and we are depending on the cystoscope to help us to an early diagnosis of this disease. I think I am perfectly justified in saying that the patient would not have died if the operation had been done before the disease had advanced so far.

I have spoken so much at length about tuberculosis of the kidney that I need say very little about the other renal diseases. Pyonephrosis is probably next in importance among the surgical diseases of the kidneys. The mortality of the operations for pyonephrosis is quite high; this, however, is not due to the nature of the operation but to the fact that the patients come to us in a very bad general condition, statistics showing for nephrectomy a mortality of about 23%, while for nephrotomy there is a still higher mortal-

ity. The results are better for nephrectomy than for nephrotomy although the former is the more severe operation. A great many cases are in such bad condition that nephrectomy cannot be done. We then do a palliative operation, a nephrotomy, and the patients do not do well. It is the province of the cystoscopist to make the diagnosis very much earlier, so that an operation may be done, while the patient's resistance is still good. In many cases we do not need the cystoscope for a diagnosis, as many of these pyonephrotic sacs are temporarily closed. Take, for instance, a patient in whom the urine becomes less turbid or even clear and at the same time the affected kidney increases in size, becomes more tender, and the patient's general condition becomes worse. In that case we may be sure that all the bladder urine comes from the non-affected kidney, and we will be able to draw conclusions from it as to the functional value of that kidney. In cases of open pyonephrosis we need the cystoscope to determine the functional ability of the other kidney.

In tumors of the kidney the main symptoms are the presence of the tumor and haematuria. The cystoscope is to tell us where the haematuria comes from. It is not always possible to palpate a tumor of the kidney unless it has attained a fair size.

In regard to renal and ureteral calculus, the X-ray picture is far more important than any other method of examination, but even here the introduction of the stilettered ureter catheter before taking the picture will help us a great deal in getting a picture in which the anatomical relations are made clear by showing the exact position of the ureter.

With this I will close my remarks, which were simply intended to give some of the general impressions which suggested themselves to me as to the value of cystoscopy to the surgeon.

DISCUSSION

Dr. S. W. Bandler said he wished to express the pleasure given him by the papers of the evening, and especially the pleasure he had had in hearing the paper of Dr. Bierhoff, who had done so much to show the value of the cystoscope, especially to those who were interested to some extent in gynaecology, as he had given an alternative to the Kelly cystoscope. Because of the annoyance which the patient suffers, the latter is now used only as a matter of compulsion, in cases where the bladder will retain only a little fluid. In women, particularly those with short urethras, we were rather tempted, he said, to use the cystoscope more frequently than we find it ordinarily necessary to do. He had frequently used it with so little annoyance that the patients did not know what was being done.

He was glad, he said, that Dr. Bierhoff had warned his colleagues against depending on it alone. It cannot always be known from one examination what the prospects of therapy will be. It is often impossible to learn the character of the whole bladder lining and the extent of lesions on one examination. Usually in inflammatory cases no cystoscope is needed. The next two classes of cases are the mild ones in which the urine shows almost no solid constituents in the way of blood, pus cells, etc. In the milder cases the use of the cystoscope is so simple that one is tempted to apply it frequently. The cystoscope does not always give an idea of the etiology of the case, and in spite of the value of the cystoscope it should be remembered that therapy is one of the most important means in making an ultimate diagnosis.

Dr. Bandler said in closing that the important use of the cystoscope is the aid it gives in permitting catheterization of one or both ureters.

Dr. Follen Cabot said that he felt grateful for the invitation to take part in the discussion. He thought the cystoscope a great aid in the early and accurate diagnosis of various disorders of the urinary tract. He, himself, had used both types—the direct and the indirect. Dr. Bierhoff had spoken about the indirect coming more to the front; at the same time he (Dr. Cabot) believed that the direct would always have a position. Dr. Bierhoff had been too modest to speak of his own instrument—a very excellent one. Dr. Cabot liked this as well if not better than any. Nitze perfected his cystoscope in 1887. Many had worked on it but it had been finally perfected then.

Regarding cystoscopy, he would class it as a secondary process. Regarding stone in the bladder, although we know that the cystoscope

is a valuable instrument, there are cases where a stone cannot be seen with it, where a view cannot be gotten through malformation, contraction, or where the stone is covered with mucus. He, himself, had been mistaken where there had been no click with the searcher.

In new growths the cystoscope is a great aid in facilitating the removal of pieces for primary examination. Dr. Cabot said he had devised some forceps for removing foreign bodies.

In a case of hypernephroma which had recently come under his observation, the question had been which kidney was involved, and how much trouble was there. The man had been seen by a distinguished surgeon, who told him that both kidneys were diseased. Dr. Cabot came to the conclusion that the right kidney was enlarged. He cystoscoped the patient, introduced a catheter into the bladder, and everything seemed normal. With catheters in both ureters, he pressed both kidneys, and the suspected organ immediately bled. He had operated and the man had made a good recovery.

Another test in a woman where there is a question as to whether ovaries or kidneys are diseased, is to put a catheter in the ureters, inject fluid, and ascertain if the pain which follows is similar to pain which the woman has had heretofore. He had had a case where there was pus in the urine. The ureters looked healthy. He could not make out at first where the pus came from. It had come from the hip joint, through an opening in the bladder wall.

Dr. Torek spoke of polyuria, shown by an increased secretion from one kidney when the ureteral catheter was in position. Dr. Cabot doubted the value of such a test because so many other conditions influenced the secretion of the kidney under those conditions.

Dr. L. A. Ewald said that, speaking from the standpoint of the gynecologist he wished to thank Dr. Stein for his very extensive paper. It had been surprising that it had taken almost 20 years before the great invention of Nitze had been recognized. It had only been in the middle of the nineteenth century that the gynecologists had taken up the instrument. Until that time it had been guess-work.

Only of late, through the efforts of Dr. Bierhoff, had it been proven that much of the so-called irritation of the bladder was simply inflammation of the colon. So far as the diagnostic value of the cystoscope was concerned, one of the principal points was its utility in determining the tuberculous kidney. Cystoscopy should be used in other instances to form early diagnoses, where there is opportunity by early operation to save human life. As far as tumors, foreign bodies, etc., were concerned, the cystoscope is no doubt of great value.

The danger of the cystoscope is known, thanks to the large amount of investigation that had been given to the subject.

Dr. Henry Mann Silver said he would give two cases. Last April a patient of his, a young woman of twenty-five years, had sailed for Europe with her cousin, a physician, and was at that time apparently in perfect health.

The report of the voyage was as follows: Boston to Naples, April 4th to 17th. Occasional incontinence of urine. Could not reach the toilet in time. Micturition not painful. No soreness; general condition excellent. Through Italy and Rome, April 17th to May 15th. The above symptoms recurred from time to time but were relieved by resting and using care not to let the bladder get full. Seemed well and did a lot of sight-seeing. In Florence incontinence more troublesome. Soreness in urethra; severe paroxysmal vesical pain. Urine cloudy, not cleared by urotropin. No fever. Paris, June 1st to 10th. Symptoms aggravated. General appearance and condition poor. London, June 10th to 18th. During this week she did not leave her room, remaining in bed most of the time. Urine at first was reported negative. A second specimen showed a little pus and a few red blood corpuscles. The doctor called in was a man of about 35, a graduate of Edinburgh. After a careful examination he concluded there was no disease of the kidneys or ureters, and made a diagnosis of mild cystitis and urethritis due partly to an over-acidity of the urine, and partly to an overtaxed nervous system. He kept her quiet on a non-stimulating diet, gave her lithia water to drink and ordered a prescription. On the way home she was miserable all the way over.

On reaching home Dr. Silver had found the patient looking well; no tenderness over either the kidneys or bladder. The temperature was 100°. He had sent her home, told her to go to bed and put her on a mild diet, and requested a sample of urine. This has been sent to Dr. Sondern, who reported that the urine from the left kidney was normal. The day before this report was received Dr. Silver had made arrangements with Dr. Willy Meyer to examine with the cystoscope, and the urine withdrawn from the left kidney was normal, while that from the right kidney showed a few characteristic groups of tubercle bacilli, with a small amount of pus and a few hyaline casts. On March 3rd the patient had reported that she was unusually well.

The second case reported by Dr. Silver was that of a woman of 30 years of age, the mother of three children, who complained of a good deal of irritation in the bladder. A vaginal examination had shown the uterus to be immovable, fixed to the right, and somewhat thickened. The irritation continuing, he had come to the conclusion that there must be some condition which was keeping up the flow of pus, which did not belong to the bladder proper. He had taken her to Dr. Bierhoff, who had examined the bladder with the cystoscope and found the cause of the trouble.

Dr. Martin W. Ware said he wished to bring out one fact which had impressed itself on him as the outcome of the many reports of cystoscopic examinations. He thought the cystoscopic examination rose to the dignity of an operation. In other words, it never should be done any more than an operation should be done, without strict indication. Since the introduction of the cystoscope the whole phase

of urinary surgery has swung into the line of all other surgery. Up to that time the entire field of urinary surgery was deprived of the benefits of antiseptics and asepsis, but the minute the cystoscope came into vogue it had been surprising to see how antiseptics and asepsis had been promoted.

Dr. Ware gave an experience: he had had a patient in whom, following an extensive haematuria, he had succeeded in locating many calculi in the bladder. Subsequently this patient had another severe haematuria which was attributed to an enlarged prostate. He was advised to have an X-ray taken. As the patient began to have urgency in urination, he accepted examination with the cystoscope, following which a terrific hemorrhage set in. He had bled so much that it was necessary to operate, but the patient had succumbed owing to the delay of the family to accept operation.

Dr. Ware said he frequently found himself in the awkward position of having someone telephone that they were bringing a patient to be cystoscoped. One cannot rush into cystoscopy without knowing on what ground one is treading. Dr. Silver, he said, had referred to the fact that he could distinguish tubercles in the bladder. He did not think that the doctor meant just that, but meant that he saw little masses that looked like them. Were they tubercles or not? He thought it impossible to know until one had a specimen. He said everyone was speaking of the operative cystoscope. In this country cases were usually seen in too advanced a stage to make operation possible. As to errors in the picture, they are very many, particularly to the novice. One such had occurred to him which had been very humiliating. The diagnosis had been stone in the bladder. Everyone who had seen it had marvelled at the wonderful picture. When the bladder had been opened, it had been found that this mulberry calculus lay so deep down that it was nothing but a blood clot, which looked like a calculus.

Dr. Carl Pfister said he thought Dr. Ware right when he had said that cystoscopy was of the same dignity as an operation. It took years and years of study before one could introduce a cystoscope. It was necessary to examine healthy bladders and to be perfectly familiar with them before going into pathological conditions. He, himself, never used the cystoscope until other means of diagnosis were exhausted. While Dr. Bierhoff could get along with 75 c.c. of fluid, only experts were able to do with that amount. Another condition was that one must be able to keep the fluid in the bladder absolutely transparent. One of the mistakes made by the beginner in cystoscopy was that he did not get the light in the proper position to see foreign bodies. If too close, the foreign body would be enlarged; if too far away, it would be underestimated. Furthermore, it is absolutely necessary that the cystoscope should pass into the urethra with perfect ease. It should be a 24 Charrière—perhaps a little less—and should be perfectly movable in the bladder. In the female bladder it is much

easier, but there is no use to make an attempt to pass it when it becomes covered with mucus.

Regarding local anesthesia, Dr. Pfister said he had had two collapses from the use of cocaine. One should not use over 3 per cent.

Dr. A. A. Berg said that the field had been thoroughly covered. One of the earlier speakers of the evening had cast some doubt on the findings of the cystoscope. Of all the instruments in the armamentarium of the physician, there was scarcely one, he thought, that gave more absolute facts than the cystoscope. It and the ophthalmoscope ought to be ranked on the same plane. The cystoscope ought not to be used by the general man—not because he does not know how to introduce the instrument, but because he has not had sufficient training to interpret its findings. The greater the expert, the more accurate will be the diagnosis. It would be folly to introduce a cystoscope without having gone into the patient's history.

Regarding Dr. Ware's statement that a blood clot had been mistaken for a stone; the expert eye always can determine those differences. The value of the cystoscope becomes important not only in diseases of the bladder *per se* of which it is an absolute indicator, but in diseases of the kidney, and no operation of surgery for kidney lesions should be undertaken without a cystoscopic examination and ureteral catheterization, not only to determine which kidney is diseased and what is the nature of the disease, but the condition of the other kidney as well. He did not think any surgeon justified in operating on one kidney until he had assured himself of the exact condition of the other kidney.

Dr. B. S. Barringer said he thought the society was to be congratulated on the excellent papers that had been heard. He wished to make two points, the first in regard to the functional capacity of the kidney, which could be accurately determined in all cases. Secondly, Dr. Torek had spoken of the gradation of stages of tuberculosis of the kidney. He, himself, had operated in the last two years upon three cases of tuberculous kidney, in which the only bladder changes were directly around the ureteral orifices and otherwise the bladder by cystoscopy was normal. The pictures which are seen are naturally different; a number can be classified as tubercular and a number cannot. It can only be said at times that one side is diseased and the other is not. Third, the error concerning the urinary separator. He had used it in forty or fifty cases with very satisfactory results. It is particularly useful in women when it is necessary to make a rapid examination. In men it was only to be used when the ureters could not be catheterized. There are certain cases where the cystoscope cannot be used and where the ureters cannot be catheterized. In those cases the separator is used to see if any results can be gotten. He cited a case which had been operated on for enlarged prostate; there was beginning tuberculosis and the kidney was taken out.

The second case had been diagnosed as haematuria; it had been cystoscoped and there was found papillomata at the ureteral orifice. The third case had been papillomata of the bladder. Recently he had had two cases of sexual neurasthenia; in one a foreign body had been found in the bladder; in the other papillomata of the bladder. In local anesthesia 3 per cent. of cocaine should be used. A case has been reported where death occurred when 3 drams was used.

Dr. A. L. Wolbarst said he thought there was one point which had not been brought out, and that was that in genito-urinary work the X-ray and cystoscope should be used together. Very often when the X-ray shows a positive diagnosis the cystoscope will show a negative. On the other hand the X-ray shows a negative diagnosis in uric acid stone, while the cystoscope will show a positive. An expert in the use of the X-ray might get a picture, but the point is that when the X-ray is used and the diagnosis is negative, the cystoscope should be called in. Dr. Wolbarst thought the cystoscope a very dangerous instrument, even in the hands of an expert. He had that evening seen a patient who had been cystoscoped five weeks before, who was still passing pus and blood. He had been cystoscoped for sexual neurasthenia. The cystoscope should never be used unless there is positive indication for it; on the other hand it should always be used where there is indication for its use.

Dr. S. W. Schapira said he wished to express his thanks to Dr. Bierhoff. Up to about six years ago he had used the Nitze instrument entirely, but since the past five years he had used the straight instrument for catheterization. Dr. Ware had just mentioned cases of mistaken diagnosis of the bladder due to the reversal of the pictures. Dr. Torek had said that where he could see clear urine and at the same time the affected kidney increased in size, he was satisfied that he could operate on the diseased kidney. Dr. Schapira did not think this very plausible. Sometimes it is hard to find the opening of the ureter even when indigo-carmin is used.

Dr. Bierhoff, in closing the discussion, said that Dr. Schapira had said he (Dr. Bierhoff) preferred the prismatic cystoscope; he wished to correct this statement. He had said he preferred the prismatic cystoscope for examination of the bladder. He agreed with the other speakers in that the cystoscope was a dangerous instrument when unskillfully used. It should never be used except where it is necessary to make a diagnosis. He did not believe Dr. Bandler's statement to be absolutely correct when he said we should rely on therapy. This should come after and not before.

Regarding the Nitze instrument; it had been presented in 1879 by Nitze, and with the exception of a few minor changes it was at present the same. Anyone who had seen Nitze operate recognized without further question that it was a beautiful instrument.

EGGS AND THEIR VALUE AS A FOOD.

BY

GEORGE JONES, M. D.,

Toledo.

At Easter tide the whole civilized world rejoices and feasts in honor of His resurrection. Beautiful offerings are made throughout the earth as an acknowledgment of man's belief in the events at the Holy Sepulcher.

The early Christians established the custom of regarding the egg as a symbol of faith in the Resurrection and our use of eggs at Easter has doubtless some reference to the same idea.

Thus we find in the story of the egg a history which would be interesting to follow were it not that we are chiefly concerned on this occasion with a study of the value of eggs as food.

In this respect their importance will be somewhat appreciated when it is realized that about two billion dozen are produced in the United States each year—over twenty dozen to each inhabitant, and that nearly all of these are consumed in this country. Such popularity is not without merit, however, for eggs are an ideal food, second only to milk, and a thorough knowledge of their composition, digestibility and nutritive value is essential.

Composition. Although hen's eggs are most frequently used in America such a choice is not universal and other varieties are prized by certain races of people. Some prefer the eggs obtained from wild birds, turtles or fish, while others consider those of alligators, lizards or serpents a rare delicacy.

As dietetists, we are not particularly interested in these unusual foods, and unless otherwise specified, the eggs of the

domestic fowl (*Gallus Bankiva*) are the ones referred to in this paper. The average egg weighs nearly two ounces and is 1-10 shell, 3-10 yolk and 6-10 white. The edible part contains about 74% water; 13% proteid; 11% fat; 1% ash, and represents 65 calories. Between the yolk and white there is considerable difference in composition and nutritive value, in favor of the former. The yolk contains 33% fat, white .2%; yolk 15% proteid, white 12%; yolk 49% water, white 86%; yolk 1% ash, white .6%. The white of the egg is made up mainly of ovalbumin, a proteid; the yolk of vitellin a proteid and palmatin, olein, and stearin,—fatty constituents.

Dark shell eggs do not differ materially in composition from light ones; but the opinion of many that the former are richer has led unscrupulous dealers to artificially color the lighter eggs, and hold them at a higher price.

Digestibility. This term refers to the thoroughness with which a food undergoes the physical and chemical processes of digestion, i. e., its capability of being broken down into elements which may be absorbed. The popular views of digestibility as being related in some way to the rapidity of digestion or the sensations of an individual, while food is in the digestive tract, are of course erroneous. Generally speaking eggs are thoroughly digested. The classical studies of stomach digestion made by Wm. Beaumont of the Army nearly a hundred years ago gave us much information which was subsequently corroborated by other investigators. He found that eggs required about the same time for digestion as other common foods and that the method of preparation made some difference. Whipped raw eggs be-

came chyme in one and a half hours, raw eggs not whipped, in two hours, roasted in two and a quarter hours, soft boiled in three hours, and hard boiled in three and a half hours. Contrary to this, is the conclusion of Penholtz, whose experiments led him to believe that raw eggs remained in the stomach longer than soft boiled ones, because of their bland character. Probably the most complete study of this matter was made by Tikhvinski of St. Petersburg, whose views correspond to those of Beaumont and others—in that, 1. Eggs are as thoroughly digested as meat. 2. That cooking makes no difference in the thoroughness of digestion, but has a tendency to delay its rapidity, calling forth more effort on the part of the digestive organs.

Nutritive Value. Eggs are exceedingly nutritious. In this respect, they compare very favorably with other animal foods, and up to 24c a dozen should be considered reasonably cheap from the standpoint of food economy. 10c in eggs at this price would purchase food of about the same nutritive value as that obtained by investing a like sum in sirloin of beef at 25c a pound. If, on the other hand, stew meat is bought at 5c a pound, the purchaser secures four times as much energy as is contained in the eggs or sirloin. When compared to the nutritive value of medicinal foods of the peptone, concentrated or predigested beef type, eggs are usually so far superior that the former class appears insignificant. It is hard to understand the popularity of many of these proprietary products, unless it may be found in the excessive cost, extravagant claims, or beautiful package, because as a rule their use in health would result in a polite form of starvation. In defense

of the medicinal foods, it may be held that they are better borne or more acceptable, and are designed to meet special conditions of the digestive tract.

As a usual thing, however, nourishment should be the first requirement, and if this is observed, it will be found that other difficulties yield to a close study of the art of practical dietetics. A recent analysis of 18 samples of medicinal foods made by well known manufacturers, showed an average nutritive value of 260 calories per pint exclusive of alcohol. The nutrients were mainly proteids and carbohydrates, and the average cost was \$1.20 a pint. Let us pause a moment and take for comparison egg albumen, the proteid, and sugar, the carbohydrate, blended in the same proportion as the proteid and carbohydrate of the medicinal food. Careful estimates of caloric values will reveal the fact that the albumen of 6 eggs and 1¾ oz. of sugar represent as much nutritive material as is contained in a pint of proprietary food. Furthermore the cost is but 14 cents which includes the value of the yolks.

Preservation. Eggs decompose because of the entrance of micro-organisms through their shells, and to prevent this, cold storage or some method of protection from air is necessary. Fresh eggs in cold storage at 34 degrees Fahrenheit undergo little if any change, for this temperature is sufficient to limit the activities and prevent the growth of the more common bacteria. The problem of preserving eggs by excluding air has brought forth numerous methods. German investigators, several years ago, conducted a series of tests, keeping the eggs for about 8 months in some twenty different ways, and found that

Immersed in brine, all were unfit for use.

Wrapped in paper80% bad.
Packed in bran, or coated with
paraffine70% bad.
Immersed in sol. salicylic acid..50% bad.
Coated with shellac, or collo-
dion40% bad.
Packed in wood ashes20% bad.
Coated with vaseline or immersed in a
solution of water-glass or lime water, none
bad.

From these experiments, as well as many others, it has been found that a solution of water-glass offers about the best method of preserving eggs, aside from cold storage. Water-glass is the common name for potassium or sodium silicate, and as obtained in the shops is in the form of a thick liquid something like glycerine. One part of this to nine of sterile water makes a preserving fluid of the proper strength. The eggs should be packed in a clean, sweet vessel, and the solution poured over them until they are well covered. Preserved in this way in a cool place, they will keep for months and often can not be distinguished in appearance from the fresh article. It is generally conceded that they lack the flavor of new laid eggs, but are in no way inferior in nutritive value.

Use as a Food. It has been said that of all the means of cure at our disposal, attention to the quantity and quality of the ingesta is by far the most powerful. Eggs and the foods into which they enter are found in nearly every household, and although their use is important, some good objections have been recorded. In certain persons there appears to be an idiosyncrasy, and they are made violently sick whenever eggs are eaten. It may be that these cases popularly called "biliousness" are caused by a delayed absorption from

the intestines, followed by decomposition, and the production of sulphuretted hydrogen and ammonia. This would be especially liable to happen if the eggs were not perfectly fresh, and could produce considerable gastro-intestinal disturbance. At other times perfectly normal individuals are made quite sick from eating eggs infected with bacteria. This is not strange for the shell is porous and offers no more resistance to pathogenic organisms than to those which produce decomposition. Considering the great number of eggs that are eaten raw, and the danger of disease originating in this way, it would seem that this subject should be an interesting one for research, and it is to be hoped that some one will take up the work. Parasites, detritus, etc., have also found their way into eggs, and it is conceded that foreign bodies may be occluded while white and shell are being added to yolk in the egg gland of the fowl. This is rare, however, and of no importance from a dietetic standpoint but should prove an interesting topic for investigation when the etiology of man's intestinal parasites is under consideration.

As a food for the sick in conditions resulting in impaired nutrition, eggs are clearly indicated. The method of preparation for invalids is important, and this problem confronts us with almost daily regularity. They may be administered raw, soft boiled, poached or scrambled, as well as in the form of mixed foods.

Eggnog plain or modified, malted milk and egg, and milk punch are all highly nourishing. Drinks composed of albumen nicely blended with grape or orange juice, or added to lemonade are delightful, and when properly made, are relished for an extended period. Semi-solid articles such

as puddings, egg junket, rice mush, etc., often prove acceptable to those who decline to take eggs separately.

Beaten yolk or white of egg may be stirred into any smooth gruel just as it is removed from the fire. Sherry, sugar and nutmeg one or all may be added as desired. Egg and wine are often of service especially if prepared as follows: Beat an egg to a froth, add one or two table-spoonsful of sugar, and beat again; heat a cup of water and $\frac{1}{4}$ cup of sherry till vapor rises and pour over egg and sugar stirring constantly; cook in double boiler till slightly thickened, serve hot or cold.

Another excellent and nutritious restorative consists of two yolks beaten up with boiling water and milk to which a little sugar, spice or brandy is added.

No discussion of diet would be complete without some reference to the custards; these are lightly cooked milk and egg combinations possessing remarkably high caloric values. The finished product is presented in an endless number of appetizing ways brought about by variations in flavor and consistency.

Notwithstanding the most careful preparation and regard for individual tastes, there are some patients who tire of eggs quickly. They become nauseated, or vomit, especially when the eggs are eaten raw.

Russell has found that such cases are invariably relieved by the following:

R Sodium carbonate

Sodium phosphate, aa,.....gr. 15

Aqua q. s.oz. 1

Sig. From 1 to 3 teaspoonfuls thoroughly mixed with eggs before administration.

When for any reason it is desired to place the stomach at rest the eggs may be administered by rectum. Boyd and Robertson have suggested a very satisfactory

enema composed of 2 yolks, 1 oz. of pure dextrose, 7 gr. of salt, and 9 oz. of pancreatized milk. To this a little laudanum may be added.

It is a well known fact that the successful treatment of tuberculosis depends largely upon the administration of eggs. Practically every one who has given them a fair trial admits that here they are well nigh indispensable. Without doubt eggs have been the means of saving many from death by this hitherto incurable disease and at this very moment there is a great army of unfortunates whose only hope of escape from the terrible scourge lies in fresh air, milk, eggs and the fats. It would seem that an all wise Creator had provided that these agents are to be inexpensive and of almost unlimited production. It is certainly true in the case of eggs and in this connection it may be of interest to know that the annual output packed in ordinary crates in refrigerator cars would cover some 1,200 miles. *A train of eggs from Toledo to Denver!!!*

THE EFFICIENCY OF THE BACILLUS BULGARICUS IN THE TREATMENT OF A CASE OF UNILATERAL CHRONIC SUPPURATIVE PAN-SINUSITIS.¹

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Mrs. R. S., 48 years old, on October 9th, 1908, came to the Nose and Ear Department of Mount Sinai Dispensary for treatment.

Ten years ago she had a severe attack of influenza; since that time she has suffered from headaches that have increased in intensity, from year to year. The pain was first localized at the left side of the forehead, but in the last year has spread over the entire left side of the cranium, and is accompanied by a feeling of pres-

¹Read before the Eastern Medical Society of the City of New York, March 12, 1909.

sure in the occiput. There have always been pains over the left front, of a twitching, sometimes of a shooting character. The eyes have become very sensitive during the last year. The patient could not read or write on account of the pains in the eyeballs and lids, and because there seemed to be indeed an impairment of vision. The patient complained of sparkling, dancing lights before her eyes, and was very dizzy; she could not walk alone; for months she did not sleep well on account of her restlessness. There was much discharge from the left side of the nose, especially in the morning. Patient sleeps with mouth open, and in the morning the throat is very dry. She coughs very often and suffers from hoarseness. She also complains of toothaches, being most pronounced in the upper left series.

On examination, patient proved to be very sensitive to pressure on left front, and over the left supra and infraorbital nerves. A constant pain prevents the patient from keeping her eyes open. In trying to write or read, she becomes dizzy.

The left nasal cavity reveals upon examination, hypertrophied inferior and middle turbinates, both of them showing polypoid degeneration; the former of its posterior, the latter of its anterior end. The cavity is filled with pus and numerous crusts. After cleansing and cocainisation, three different sources of the pus are recognized: one from the middle meatus over the inferior turbinate, another over the middle turbinate, and the third along the septum. On account of the enlarged middle turbinate, it is impossible to introduce a probe into the frontal sinus. Transillumination reveals opacities of the left maxillary and frontal sinuses. The very much enlarged inferior turbinate interferes with the opening of the antrum by puncture through the inferior meatus, and therefore the antrum needle was applied at the superior margin of the inferior turbinate, but it was only possible to perforate the bony wall at a distance of about four cm. from the anterior nares. The patient has an abnormally small antrum, which is located very far backwards. In this case, as in many others where anatomical abnormalities of the antrum exist, we cannot depend upon transillumination in making our diagnosis. The only reliable

method is the puncture of the antrum, which, in this patient was positive, the fluid washed out from the antrum containing a large quantity of caseous pus. After thorough cleansing with an alkaline solution, a suspension of living *Bacillus Bulgaricus* was injected and in the middle and upper meati, a spray of the bacteria suspension was applied; in addition, a piece of cotton soaked in the same solution was lightly packed into the nasal cavity. This treatment was repeated three times, with intervals of two days. The toothaches and pain in the left upper jaw had considerably diminished, but the symptoms pointing to the other sinuses, did not change, the reason being I believe, that the *Bacillus Bulgaricus* suspension did not come into immediate contact with the diseased area.

On October 20th, to establish proper self-drainage and to enable me to wash the antrum with the cannula and not with the antrum needle, which requires the performance of a small operation each time, I made by means of Wilaminsky's instrument, a large opening in the nasal wall of the antrum. A thorough examination with the probe revealed the antrum to be filled with a soft polypoid tissue. The hypertrophied part of the inferior turbinate was removed simultaneously. For one week the antrum was washed out with the suspension of living *Bacillus Bulgaricus* applied through a cannula. It was very remarkable to note how the condition grew better from day to day; the discharge steadily diminishing, the mucous lining of the antrum becoming more and more healthy.

On October 27th, the symptoms referring to the left antrum had entirely disappeared, the probe not finding any polypoid tissue.

I removed on October 27th, the anterior half of the middle turbinate. The wound healed quickly, so that after some days I could try to introduce the probe into the frontal and sphenoidal cavities. A continuous discharge of pus could be noticed coming from the opening of the sphenoidal cavity and also from the posterior ethmoidal cells. The probe slipped easily into the sphenoidal cavity, and

showed it to be filled with soft polypoid granulation tissue, and the wall, especially the anterior was found to be rough at many places.

The frontal sinus could not be probed; the probe instead of entering the nasofrontal ductus, slipped into a small cavity, a so-called anteponed (vorgelagerte) ethmoidal cell.

On account of this anatomical abnormality of the frontal sinus, and believing it to be of importance to first relieve the symptoms referable to the sphenoidal cavity, I resolved to treat at first the latter.

On November 3rd., I removed under cocaine, the anterior wall of the sphenoidal cavity by means of Hajek's sphenoidal hook and forceps and curetted the cavity which proved to be filled with soft polypoid tissue. On account of the large size of the cavity, especially from above downward, it was impossible to remove all polypoid tissue. The bony wall against the optic chiasma proved to be very thin, and therefore this place was not curetted, thus avoiding the possibility of any intracranial complication, knowing from experience and from many cases in the literature, that this area yields sometimes very easily to the slightest pressure of the instrument.

After the operation, the cavity was filled with a suspension of living *Bacillus Bulgaricus* and lightly packed with gauze. Two days later the packing was removed and the cavity syringed with the bacteria suspension. The patient felt much relieved. After some days, the heavy pressure and pains over the occiput, and all eye symptoms had totally disappeared. Ten days after the operation the remaining polypoid tissue had been entirely absorbed; the treatment consisted in filling the cavity with the bacteria suspension every second day. The patient felt like a new woman. She could walk, write and read easily; the latter fact demonstrating that the irritation of the optic nerve, by the suppurative process in the sphenoidal cavity had caused the optical symptoms. In syringing the sphenoidal cavity, special care was taken to introduce the bacteria suspension in the posterior ethmoidal cells, from which the discharge stopped after about one week.

The only trouble the patient complained of was, the pressure and pain over the left frontal sinus. This had not improved by

syringing the bacillus suspension into the direction of the frontal sinus.

On November 22nd, I made a small intranasal operation, to make the opening into the frontal sinus more accessible for the cannula, and four days later I could easily introduce the latter through the enlarged opening, and thus bring the bacteria suspension in intimate contact with the diseased area.

On December 1st, patient had no symptoms whatsoever, and was thus perfectly cured of a chronic suppurative pansinusitis of ten years' standing.

In conclusion I would like to make the general statement, that the *Bacillus Bulgaricus* is of great value in the treatment of suppurative conditions of the nasal accessory cavities, but only after having been brought in intimate contact with the disease; syringing of the nasal cavity, hoping for the bacteria to find their way to the respective sinuses is a useless procedure. Its efficiency is undoubted, when the focus of the disease can be reached, and the culture applied directly; this usually necessitates a minor operation to establish accessibility, but the prompt action of the culture as demonstrated in this case saves the patient from the radical procedure that has in the past been found necessary in similar cases.

1184 Lexington Ave.

GUMMA OF THE FEMUR IN A CHILD.¹

BY

M. M. STARK, M. D.,
New York City.

Beginning with the family history the mother who sits before you is healthy, and always has been; the father is said to have been a scrofulous child but after the sixth year appears to have been perfectly well. This young woman told me that she had known her husband for ten years before marriage, and had known him always to have been well. The paternal

¹Read before the Eastern Medical Society of the City of New York, March 12, 1909.

grandmother, however, has been afflicted for a number of years with a skin lesion which on and off would manifest itself and then disappear under treatment. I saw this lesion yesterday, but did not identify it as a positive luetic one, and rather believe that it is psoriasis.

This child is a little over three years old, was born under normal conditions in the first year of wedlock—(there were no miscarriages). It cut its first teeth at six months, and the others followed rapidly; it was nursed at the breast for eleven months, and began to walk at one and a half years.



GUMMA OF FEMUR. CHILD OF 3 YEARS.

The mother noticed some difficulty in nasal breathing after the child was a few months old, and the removal of something from the nose was undertaken in the hopes of curing this condition, but without relief. At seven months the child had an otitis, discharging pus for about two weeks, but there has been no recurrence of this. The child always was pale but

excepting its present manifestations, was apparently in good condition. About six months ago the mother noticed that the child would, on walking, suddenly stop short, and cry out on account of pain in its left thigh. The pain was of short duration but recurred at numerous intervals throughout the day. This led to an occasional limp in the gait (which heretofore was all right,) and the child was observed also to carefully guard the affected thigh when being handled—in other words there was pronounced tenderness present. Oftentimes, too, the child would cry out in its sleep with this pain.

A few months ago the mother noticed in addition to these symptoms a swelling of the thigh, and for this she was led to seek advice.

When I first saw the child, I noticed the swelling which the mother spoke of, but under treatment this is now gone.

The child is strikingly pale, the frontal bones are prominent, the eyes are bleary and lamb-like, the teeth are nearly all in a decaying condition. There does not seem to be any visceral lesion but in the upper third of the left femur there is present a tender swelling about the size of a walnut. The radioscope afforded us an excellent illustration of the site and nature of the lesion, and upon the evidence furnished by the plate the diagnosis of gumma was based.

On consulting the picture you will see the similarity the lesion bears to the one found in the acquired form of lues. It is distinctly in the diaphysis or shaft of the bone, not at all at the epiphyseal line where congenital lesions are usually located. There is destruction of the periosteum with rarefaction of the neighboring bone substance and an easily distinguished thickening of the corticalis above and below the site of the lesion. A close inspection will also reveal an area of density around and above it, corresponding undoubtedly to calcific changes.

As a rule gummatous processes do not arise in hereditary syphilis before the fifteenth year, but when they occur earlier as in this case they must be classed as manifestations of late hereditary syphilis, since they are tertiary lesions. This is the earliest case of so-called latent syphilis of which I have knowledge.

CLINICAL NOTES AND QUERIES.**ANGINA PECTORIS.**

WM. MUDIE, M. D.,

Pittsburg, Pa.

Recently I had the rather dubious pleasure of being a witness under unusual circumstances to a series of ten or twelve attacks of angina pectoris, each presenting such an alarming aspect that I felt sure it would end fatally. This unpleasant experience occurred in a closed carriage while on the way to the funeral of the patient's son.

The patient, or rather companion, for he steadfastly refused to be considered a patient, was a man of 60, active and vigorous; of a temperament so extremely nervous that the balance of his mentality could be questioned; with no strongly alcoholic history, yet Hennessy brandy seemed to be no stranger; his occupation took him outdoors daily for an eight or ten mile walk, he said; very opinionated in all matters, with special mention as to the uselessness of physicians in general and one in particular. He had come to this city to attend the funeral of his only son and, naturally, was much upset.

He described an attack he had had on the sleeper the night before, the first in his memory, which description agreed with the classic symptoms of true angina. The next afternoon, during the funeral services at the house, he had another seizure, to which I was a witness. He writhed in pain, with his hand pressed over his heart; the muscles of his face were set and mouth wide open as in air hunger; respiration stopped; pulse full, strong and normal in time; a hasty auscultation of his heart failed to reveal any murmur; skin pale, no perspiration.

This lasted probably twenty seconds. He immediately recovered control of himself, said he felt all right and expressed a deep sense of shame for succumbing to "this nervous weakness." He seized my hand with a firm grip and said, "That's just the way I felt—as if something had grasped my heart and was squeezing it."

¹Physicians contributing to this Department may have their names withheld if they so desire, but anonymous communications will be ignored. Short clinical notes are especially desired.

While I was preparing a hypodermic in an adjoining room another attack came on, lasting about the same length of time. When it had passed away and he was to all appearances normal again he refused the hypodermic with so much positiveness that to have insisted upon giving it would have led to the use of force, for which he seemed quite ready. He didn't refuse a couple of invigorating drinks of brandy. Again he expressed his chagrin at what he termed his weakness—in fact, harped on this theme for the next two hours, although I had strongly hinted at the underlying possibilities and had tried to instil into his mind, as well as one could with an obstinate and choleric party of his years, how little "nervousness" had to do with the case.

When we tried to persuade him to remain quietly in the house while the carriages proceeded to the cemetery he protested against this proposition so vigorously that opposition, especially when the circumstances were considered, seemed useless. He declared he would walk to his son's funeral if he couldn't get there any other way. He certainly would have tried it. An Englishman by birth and accustomed from his youth to feats in pedestrianism, and not a little proud of his accomplishments in this line since this was a recurring topic in his endless stream of conversation, he really thought nothing of the 14 mile trip before him.

With his wife, now almost distracted, and myself as companions in the carriage, we started on a long, cold drive. The armamentarium consisted of a bottle of brandy, one of distilled water and a hypodermic syringe, the last entirely useless. If I had started to prepare an injection it would have stopped the funeral.

How many seizures he had in those fourteen miles I don't know, for I lost count; but it seemed to average one to the mile. And how he survived them all is a mystery. Each one I felt would be his last. They rarely lasted longer than ten seconds. In some the pain was so severe that his body would assume the position of opisthotonos, while he would grasp his heart and struggle for air. He had no sensation of impending death, but the absence of this symptom might justly be ascribed to a downcast state of mind in keeping with the occasion. After many he had gaseous eructations,

with great relief. Invariably, when the spasm had passed, he sat bolt upright and deplored the "weakness" that made him give way; he thought it very unmanly.

Of necessity the treatment responded to the much-urged plea for simplicity in prescribing; when the seizure came on I pulled down the window; after it passed I gave him a drink of brandy. It may not have been orthodox but happily, with visions of a funeral within a funeral, it took the patient "there and back again." The suggestion of any other medicine would start an argument and, indeed, once or twice he questioned whether there was a narcotic in the drink.

As we drew near the house, on the return trip, he became more quiet, the attacks were less frequent and he even dozed awhile on his wife's shoulder—an immense relief to all parties. During the entire trip he had, barring the attacks of angina, acted more like a spoiled child than an adult.

In the evening, about nine o'clock, he had another attack, which was relieved by a *perle* of amyl nitrite; at midnight his friends reported still another, saying he was sick for nearly half an hour, but, after free emesis, he felt much better, went to bed and slept for twelve hours. The next day he insisted on leaving for his home in the west.

(While Dr. Mudie's report is most interesting, we trust he will pardon us if we raise the question as to whether his case really was one of true angina or not. We recognize that his intimate contact with the patient endows his opinion with far greater value than any we may form from his description, however complete. To the skilled clinician, the facies, and general behavior of a patient in an attack of angina are often of prime importance in making a diagnosis. But the case as reported by Dr. Mudie furnishes an excellent opportunity for considering the differential diagnosis of these cases of precordial pain and for sake of discussion we are going to question the diagnosis of angina pectoris.

At the outset what are the features of the case as recited by Dr. Mudie that raise any possible presumption against his diagnosis? First and principally the great number of attacks in so brief a period and each of such short duration. It is true,

attacks of angina do occur with frequent repetitions during a few hours, followed by a variable period of remission. It is also true that some angina paroxysms last for only a few seconds. But it is rare in true angina to observe so many attacks each so uniformly brief. Moreover when attacks of true angina do follow each other with the rapidity described, the case is usually a very grave one, and without effective treatment the patient usually succumbs.

Dr. Mudie also says that the pulse was full, strong and normal in time, and auscultation revealed no murmur. It is fair to assume therefore, that there was no arrhythmia. In true angina, particularly in a case characterized by attacks repeated at short intervals, arrhythmia of the heart and pulse is common, and the rate is usually increased.

In describing the mental condition of his patient Dr. Mudie speaks of the patient's combativeness and his deploring "the weakness that made him give way," which he thought "unmanly." This is not the usual condition of the true angina patient. The sense of impending death in true angina, in early attacks particularly, is quite constant. The patient is usually scared, and very apprehensive rather than apologetic. In fact the apprehension, or fear of an impending recurrence is oftentimes terrifying in the extreme.

Again, Dr. Mudie in describing a paroxysm says that the hand of the patient was pressed over the heart. Of course this is somewhat indefinite, but as a usual thing patients with true angina locate the pain quite distinctly at the sternum. It is uncommon to have them locate it in the broad precordial space or to the left of the sternum. Reflection of the pain, however, up into the neck or shoulder is of very common occurrence.

Finally, Dr. Mudie states that the patient writhed in his pain and in one or more paroxysms there was decided opisthotonos. In true angina this is rare. The position is almost always one of rigid, upright fixation.

With these comments, discursive pure and simple, it is only fair to offer a tentative diagnosis.

The writer, from his personal experience cannot refrain from thinking of a case of

aneurysm of the coeliac axis. This case was not recognized until at the autopsy, although examined by some of the best diagnosticians in this country and Europe. It was generally believed to be true angina, although for several years attacks of frequent paroxysms of the character described by Dr. Mudie, raised some doubt in the minds of several of the attending physicians.

The patient under discussion points strongly to the ill defined and little understood malady called pseudo-angina. We realize that the name means little and describes the most prominent symptom rather than the disease. But it refers to that class of cases characterized by severe paroxysms of chest or precordial pain which are not due to disease of the coronary arteries. Whether it is due to neuralgia, neuritis, hysteria, rheumatism, malaria or what not, it does not have the pathological arterial changes that lie at the foundation of every case of true angina.

Therefore, from the character of the paroxysms, their frequency, their brevity, the patient's history of mental anguish and shock, his nervous temperament, the location of his pain, the posture taken during the pain, the lack of apprehension, and the complete relief after vomiting inclines us to favor the diagnosis of pseudo-angina.

In regard to treatment Dr. Mudie was assuredly handicapped by the patient's mental attitude. As he says brandy was not orthodox and in true angina it would have been contraindicated positively. Indeed its use would have increased the pain.

Amyl nitrite or nitroglycerin are of specific value in the true form and often beneficial in the pseudo types. In the latter emesis is of great service for its relaxing effect. The bromides are often effective and hyoscyamin in 1/250 grain doses every half hour until relief or physiologic effects are produced is sometimes very satisfactory. Codeine sulphate hypodermically at the physician's discretion is often a most efficient means of relief. Subsequent tonic medication and regulation of the hygiene are indicated.

If any of our readers have anything to add to this discussion their communications will be welcomed.)

EDITOR.

IN CARDIAC THERAPY WHICH PREPARATION OF DIGITALIS IS MOST SERVICEABLE?

To the Editor:

It seems to be conceded that digitalis is the best all 'round drug in the treatment of organic diseases of the heart. For a long time I have used a tincture of digitalis, which is claimed to have been standardized. The results are sometimes good, sometimes bad and oftentimes indifferent. A brother physician strongly urges fresh infusions of digitalis and claims to have secured more uniform results under the use of digitalis in this form than from any other preparation. I would be pleased to see a discussion of the matter at your convenience. Also a statement as to the comparative value of digalen.

C. R. S.

Buffalo, N. Y.

(In spite of the extensive chemical and clinical study that has been devoted in recent years to digitalis, no derivative or preparation of this drug has yet been evolved that gives more prompt and satisfactory results in cardio-therapy than can be obtained from freshly and properly prepared infusions of selected leaves. That many critical physicians are convinced of this fact—particularly in reference to cardiac disease accompanied by oedema—is shown by their preference for the infusion exclusively. Only recently Janeway has expressed himself (*American Jour. of Med. Sciences*, June, 1908) as favoring digitalis in the form of an infusion; always provided of course that it is freshly made from good leaves. Babcock in his work on *Diseases of the Heart* says that "if this unrivalled agent is to be employed for the removal of oedema, it is best given as an infusion of the English leaves. The tincture, the fluid extract, or the powder, digitoxin and the various digitalis whether French or German will not prove so efficient."

At the very outset the most important detail is the selection of the leaves. Those of the first year's growth, as Vanderkleed well says, are practically inactive, and will nearly always be found deficient in the more complex constituents which give to later growths the special characteristic action

for which digitalis is employed. Consequently only leaves of the second year's growth, gathered preferably as the plant commences to flower should be used. Moreover, to again quote Vanderkleed (*Amer. Jour. of Pharmacy*, March, 1908) it has been shown not only that moist leaves quickly become worthless, and that only the dried or almost completely dried leaves can be kept for any appreciable length of time without deterioration, but that great care must be exercised in the process of drying, in order that the very process which is intended to aid in preserving the activity of the leaves be not instrumental in destroying it.

When properly dried, the leaves must then be assayed or tested to determine their relative strength and fitness for use. All this takes time and increases the cost, but it is absolutely essential in order to insure a dependable product from which, in turn, preparations of known pharmacologic and therapeutic value can be made.

It is unnecessary to speak of the therapeutic utility of digitalis. Sir James Sawyer (*Med. Press and Circular*, April 15, 1908) in an article on *Maladies of the Heart* says "Digitalis is by far the best of the remedies of its kind. What it can do some other remedies can do in part, but none even that part so well. Digitalis has no succedaneum. As to when to give it unless the indications for its use are complete, never to give it merely because the heart is affected, but to give it always, and then in efficient doses, when the veins and the arteries at the same time point to its use, namely, when the veins are too full and when the arteries are not full enough, and the pulse is soft."

This is quite generally the consensus of opinion and the place of digitalis in cardiotherapy—particularly in the form of a freshly prepared infusion—is not liable to be soon seriously questioned. While there are abundant reasons for believing that the action of digitalis is manifold, and that it is subject to wide variations in its physiological effects, it is certain that the clinician who familiarizes himself with the application of this valuable drug, has at his command one of the few that will not fail him in times of stress or therapeutic necessity.

In regard to digalen, we are free to say

that it promises much. A description appeared in our December issue, page 595. Reports of cases in which this preparation has been used seem to indicate that it is a valuable addition to cardiac therapeutics. While the results that the writer has obtained in a few cases have been uniformly satisfactory, he would hardly feel qualified to give a conclusive opinion. It has certain advantages and it certainly is of a standard strength and uniformity. As far as its value for routine use, as compared with that of infusion digitalis is concerned, the writer believes that this is largely a matter for each individual physician to determine. A good deal depends on the personal equation. Some prefer the tincture, some prefer the infusion and doubtless if the claims made for digalen are sustained by extended experience, many will prefer digalen. Already we know some physicians who do. But we maintain that this is a question for the individual physician to decide, as are all questions of therapeutics. His common sense, powers of observation, judgment and discretion are to be trusted. The literature on digalen is very extensive and we would suggest that you write the Hoffman-LaRoche Chem. Co., John St., New York, the American agents for the most recent data. You will find them exceedingly courteous and reliable.)

BLOOD PRESSURE IN PULMONARY TUBERCULOSIS.

To the Editor:

What if any variations in the blood pressure occur during the course of pulmonary tuberculosis, and what therapeutic measures if any are indicated?

A. S. B., Concord, N. H.

(The blood pressure variations in the course of pulmonary tuberculosis are simply those to be expected as coincident with or the result of any inflammatory process. When the process is acute and progressive, and the resulting toxemia is marked there is usually an increased blood pressure. It is usually transitory and falls with the establishment of free perspiration. Medicaments are therefore seldom indicated. In many cases however, heart weakness is shown by a pronounced tachycardia and in such cases the blood pressure

is generally lowered. Rest, open air living and suitable tonics are our best means of correcting this condition.

When hemoptysis occurs, the blood pressure is usually decidedly increased, and this is why ergot is always contraindicated in hemorrhage from the lungs. The treatment that seems most rational is the administration of remedies like nitroglycerin, amyl nitrite and veratrum, which lower blood pressure and as some writer has said "bleed the patient into his own blood vessels." Fortunately, clinical experience has repeatedly demonstrated the utility of this kind of treatment and it is the one most generally followed at the present day.

On the whole, it may be said that the blood pressure is subject to wide variation in the course of every case of pulmonary tuberculosis and no particular condition is characteristic of the disease. The indications for treatment as a consequence depend entirely on presenting symptoms.)

ETIOLOGY AND DIAGNOSIS.

The Tongue.¹ In all successful treatment the tongue is never lost sight of. We would not disparage the present-day tendency to place much less emphasis upon the mere showing of the tongue than did "ye old time doctor." His plan of treatment was almost absolutely symptomatic. He aimed at the condition presented rather than at the disease, and judged of the indications for drugs by reading or affecting to read, the pulse and the tongue. In taking up a new case it mattered less that the remedies employed were in no particular degree determined by the tongue and pulse finding than that the wise doctor had given all due respect to the parts of his patient. It would have been a grave offense against his calling, the prevailing custom and the rights of the patient to omit this part of the treatment.

It is a fact that in every disease there are a whole lot of things that can not be read from the patient's tongue. The classic wail "No tongue can tell the agony of my suffering" is of wider application than the patient uttering it is aware. Stripped of every figure of speech it applies in diagnosis with marked force.

But it is equally patent that in every disease the tongue has a valuable story to tell, and that the practitioner who ignores this story, is in no sense modern, scientific or practical. In the light of day we do not cursorily examine the tongue; we keep an eye upon it. Not merely its aspect at the outset of treatment, but its variations from day to day, are of prime significance. Minute inspection in the light of findings elsewhere in the course of a physical examination, alone will reveal the whole story a tongue has to tell.

The tongue findings are directly and vitally connected with diagnosis, treatment and prognosis. The mere presence of a coat on part of the tongue may signify nothing. A heavy coat that promptly fades on proper treatment and shows no tendency to reappear is of less significance than the lightest coat that sticks firmly or promptly returns. If the tongue mirrors the general condition of the *prima viae*, and this is generally conceded, it equally foretells what we may expect from results to be secured only *via* absorption and assimilation.

In any disease, as one of the fevers for example, persistent foulness of the tongue on the one hand, and a coat that is more or less promptly exchanged for a condition approaching rawness on the other, are both indicative of the graver types of disease and prognostic of slow or indifferent progress towards the normal.

In a disease like tuberculosis, in which results of treatment hinge upon the perfect intactness of the gastro-intestinal functions, it is of vastly higher importance to scrutinize the tongue from day to day than the affected lung. In practice we are too prone to disregard this most obvious fact. Either to amuse the patient or to satisfy a personal curiosity we thump the chest when we would better thump the office floor.

"Bilious" and "biliousness," we contend, are much too expressive and time-honored to drop from the vocabulary of the busy practitioner for yet a long while.

"The yellowish coated tongue, yellow conjunctivæ, muddy skin, nausea, heavy breath and constipation," that group of symptoms that ever and anon followed upon excesses of the table or a cold "be-

¹Medical Council, May, 1909.

fore the wa' " still occurs with about the same degree of frequency. And as for the treatment, we still follow the old lines, only now with greater nicety and skill.

A word as to the latter is not out of place here. Minute doses of calomel prevail. They are repeated at short intervals, the shortest yielding the mildest effects. Some physicians are partial to half-hour intervals, particularly in the treatment of children and ladies. Following the mercurial, sulphate of magnesia is a complement, if properly administered. This is done, according to Hare, by taking one heaping tablespoonful of the same in as small a quantity of water as possible. One hour later, follow by a full glass of water. The latter sweeps through the bowel, carrying all the accumulations before it.

In recent years, through the light shed upon the alimentary tract by bacteriology, we have come to recognize local disturbances as expressive of loss of floral balance. In ordinary parlance the tract has become overgrown with weeds. This is shown by rude but plain evidence in the condition of the tongue.

But the tongue is somewhat of an index as well of morbid conditions beyond the intestinal tract. We note, for example, the dry tongue of toxemia and diabetes, the fissured tongue of certain chronic inflammations of the kidneys and syphilis, the swollen tongue of great prostration, etc.

TREATMENT.

The Treatment of Placenta Previa.¹

Rosewater recommends the following treatment: in placenta prævia centralis use vaginal and cervical tamponade, separate a portion of the placenta and do version slowly, delivering the fetus after the hip has appeared; or go boldly through the center of the placenta and do a version as already outlined; or do a cesarean section, particularly if the os will not dilate.

In placenta prævia other than central, use vaginal and cervical tampons to control hemorrhage and dilate os; then do bipolar version; or if the vertex presents, simply rupture the membranes and if pains

are good leave to nature the balance of the work; if the pains are weak apply forceps and deliver cautiously.

Check postpartum hemorrhage by intrauterine tamponade, ergotin, strychnin and massage the uterus. Sustain and support patient all through progress of the case.

Analyzing the question from another standpoint, we have four indications to fulfil: (1) To check hemorrhage before or after delivery; (2) to deliver; (3) to prevent shock; (4) to prevent sepsis.

1. *To check hemorrhage.*—Use vaginal, and when possible, cervical, tampon of aseptic or iodoform gauze before delivery. After delivery check hemorrhage by delivering placenta and packing uterus with aseptic or iodoform gauze and give ergotin and strychnin hypodermically or by mouth.

2. *To deliver.*—Dilate os by tampon, water bag, or manually. Apply forceps if vertex presents and pains are insufficient. Perform version with slow delivery as indicated. Do cesarean section when os will not dilate and hemorrhage continues.

3. *To prevent sepsis.*—Be strictly aseptic in all details of management.

4. *To prevent shock.*—Stimulate and sustain patient all through labor by light, easily digestible food, strychnin, quinin, rectal enemata of normal salt solution or by hypodermoclysis.

Pellagra.¹—Watson admits that the direct treatment of the malady has not been very satisfactory. Lombroso recommends Fowler's solution of arsenic in ascending doses. Babes is an advocate of and uses atoxyl (a form of arsenic) hypodermically and reports very assuring results from its use. These results have not been confirmed, and possibly the improvement following the use of the drug may be mistaken for the natural remissions that occur in the disease. The drug is given in doses from one to three grains injected deep into the gluteal muscles every three or four days. It is stated by Dr. Babcock that the diarrhoea and rash is controlled better by atoxyl in the first stage than by any other procedure. Good hygienic sur-

¹C. Rosewater, M. D., Omaha, Western Med. Review, March, 1909.

¹J. J. Watson, M. D., Columbia, S. C., N. Y. Med. Jour., May 8, 1909.

roundings, good food, especially meats and avoidance of all articles containing Indian corn, and hydrotherapy are all conducive to improvement.

The Treatment of Eczema.¹—Stern says he is sorry to be compelled to say that a large number of general practitioners seem to know very little about the treatment of eczema. It is an every-day occurrence to us to see patients in our office who have been treated for years by general practitioners with the condition continually growing worse. Continuing he says: four weeks ago I saw a girl of 15 in my office who for the past 2½ years had both her hands completely bandaged for a parasitic eczema which has been continually progressing. She was constantly under treatment by various physicians, who practically regarded the case as hopeless by this time. To-day, after four weeks of treatment her hands are entirely clear, and there are practically no remaining evidences of the disease. She told me that the physicians she went to gave her all sorts of internal remedies, advised her to soak her hands in warm water twice a day, and apply various ointments which they prescribed. It is no wonder that under this treatment her hands got continually worse. I am sure that if this had been kept up for eternity her hands would not have improved. This is not an isolated case, but a history we very often have to listen to.

There is no question that with our advances in dermatology we can cure eczema to-day, even of the worst types. The duration of treatment necessary in a medium severe case is about from four to six weeks. Of course, there might be recurrences, but you must not forget that you are dealing with a catarrh of the skin, with a patient who is predisposed to the development of this catarrh, and who, under the stimulus of the various irritating causes mentioned, may develop the disease again.

This holds good to about the same degree as a recurrence of a catarrhal inflammation of the mucous membrane will

hold good. The internal treatment is of some importance in the treatment of eczema. It is important to get your patient in as general a good condition as you possibly can, especially when the disease is due to nervous reflex irritation. You must take care of the patient's nervous system; you must correct any faulty digestion and imperfect elimination. You must take care of the circulation. The theory of arsenic being a specific in eczema has not been proven, and it should be abandoned as a routine treatment; an all around intelligent symptomatic treatment is far better.

As regards diet, I do not know of any special diet which is of much use in treating eczema. In the parasitic form, diet does not influence the disease in any way whatever. In other forms, any rational simple diet will do. Probably cutting out alcoholic stimulants will prove of some benefit. Occasionally you will get a patient who will tell you that eating various substances, such as shell-fish, etc., makes his eczema much worse—probably it does through the reflex nervous system—tell him to abstain from it; but these are all individual cases. It may be necessary to make radical changes in the diet of some patients who are subject to various ailments which more or less influence his eczema, such as a gouty diathesis, rheumatism, excess of uric acid, diabetes, etc. In these cases you must treat these conditions in addition to the eczema.

External Treatment.—In the majority of cases this is far more important than the internal treatment. In my opinion the most important thing is to avoid absolutely the external use of water in any shape or form. Never permit water to touch an eczematous lesion. It is the worst form of irritant that you can apply. For cleansing purposes, use cold cream or some neutral oil. If there are a lot of exudations or crusts on the lesions, you can best clear them off by gently rubbing in some fatty or oily substance and wiping off with absorbent cotton. If the lesion is erythematous, or in fact in almost all types of eczema, we had very good results at the Mt. Sinai Hospital, in first applying the following solution, known as "Liquor Burrowii":

¹Samuel Stern, M. D., Med. Record, May 8, 1909.

Plumbi acetatis cryst. ʒii
Alumini crudi pulv. ʒiv
Aqueæ dest. ʒviii

Dissolve separately, mix and filter. This is best applied by diluting it with 4 parts of water. You order a thick piece of sterilized gauze saturated with this solution applied on the lesion covered with a piece of oil-silk and tied on. Be sure that the oil-silk somewhat overlaps the gauze, otherwise it would dry too rapidly. This should be renewed whenever dry, probably every 3 or 4 hours. You will find that it has a very soothing action on the lesion, that it will generally allay the inflammation, and that after using it for a time the vesicles and pustules will begin to show a clean base. After all the inflammation has disappeared, you follow up with a tar preparation of some form. The one we have found best is the imported oleum rusci with a zinc oxide ointment base. It is perhaps best to begin with a 5 per cent. preparation and increase up to 10 per cent. The best way to apply this is to clean the lesion morning and evening with oil or cold cream, then gently apply ointment, dust over with plain, nonscented talcum powder, and lightly bandage. In cases of dry scaly forms of eczema of the seborrheic type, situated on the scalp or other portions of the body, apply the oleum rusci mixed with olive oil in the proportion of 1 to 3, painting it on twice a day with a skin brush.

In the form of eczema generally found on the palms of the hands and feet (large bleeding cracks, generally known as washerwoman's eczema), we get the best results by painting every day or two with a 5 per cent. solution of silver nitrate, and then applying a 5 to 10 per cent. salicylated plaster. The best is the imported plaster known as: "Emplast. Sapon. Salicyl. (Dieterich)."

Another type of eczema we often find in children, beginning on the back of the scalp, spreading down to the neck, involving the ears, with isolated patches scattered over the face, really belongs more to the impetigenous conditions than to eczema. These can generally be traced back to pediculi. We must treat this condition before we can expect to accomplish anything with the eczema.

Another drug which I have found very beneficial in a great many cases of eczema is methylene blue. This can be painted on the lesion in a 3 per cent. aqueous solution, or applied in the form of a 3 per cent. ointment with zinc oxide ointment base. Small isolated patches which are not much inflamed can be painted with the methylene blue solution and then painted over with flexible collodion—this makes a very good dressing.

Treatment of Appendicitis.¹—Robinson says that it is often exceedingly difficult to make a diagnosis between appendicitis and colitis. The best plan of treatment is the following: (1) Rest in bed, and with rest in bed little or no voluntary movement while pains are acute, temperature elevated, and other general symptoms threatening or grave. (2) Ice bag, or, preferably, hot water bag, or poultices, or stupes with hot water and oil of turpentine and soap liniment, flannel covered, or not, with impermeable, i. e. oil-silk, or rubber tissue. (3) Laxative enema with castor oil and oxgall, sometimes a little glycerine being added. Flaxseed tea should preferably be the menstrum of the enema. (4) A moderate amount of codeine every hour or two, by mouth, if pains seem to require it, from 1-20 to 1-10 or 1-5 grain. (5) In rare instances only are hypodermic injections of morphine to be given and then only for excessive pain not otherwise relieved. If to this treatment, whenever the stomach tolerates it, ten grains of salicin in cachets be added every two or four hours, we shall have a practical, rational, effective treatment of appendicitis. During acute stage only liquid food in small quantities and properly selected, should be permitted. Whenever an abscess is well defined it should be opened and drained. In this connection it should be remembered that very many perforated cases of appendicitis cause an abscess limited by protective false membrane, if not operated on too soon or ill advisedly. Perforations undoubtedly will occasionally occur and then operation is immediately called for. But, says Robinson, up to date this diagnosis is never certain; only probable, and at most relatively infrequent.

¹Beverly Robinson, M. D., N. Y. Med. Jour., May 1, 1909.

The Serum Treatment of Cerebro-Spinal Meningitis¹.—As is the case with antidiphtheritic serum, the horse is the animal used to supply the antitoxin. The method of immunisation is first to use gradually-increasing doses of a vaccine, cultures of the meningococcus being exposed to 60° C. for 30 minutes. For these live cultures in increasing doses are afterward substituted, the injections being made every 7 days. Alternately with the cultures injections of an autolysate, prepared from the diplococcus, are made. It was found that large doses either of the vaccines, cultures or autolysates could not be given intravenously without producing too great a reaction. Ultimately all injections were made subcutaneously. There is always considerable local reaction.

The serum thus prepared by Drs. Flexner and Jobling appears to have a distinctly bactericidal power. Its action is to disintegrate diplococci which are exposed to its influence. There is reason to think that it also has some antitoxic power. This is interesting, as it is believed that the toxin of the meningococcus is an endotoxin; and should the antitoxic claim of Flexner's serum be established, the preparation would be the first antiserum against an endotoxin yet discovered. It certainly is difficult to see how it can exercise any favorable effect on the meningitis patient when injected into the spinal canal, unless it has some antitoxic influence. Otherwise by breaking down and disintegrating the micro-organisms it would, by also setting free the endotoxin, render the patient's last state worse than his first. This is not clinically or experimentally the case, so it is rational to suppose that there is something present to combine with the liberated toxin.

Flexner recommends that the serum be always injected into the spinal canal. The dose recommended is roughly 30 c.c. By this method the serum is brought directly in contact with the inflamed area and with the causative germs, and may be supposed to act more promptly and effectively. I had already, after my experience with other meningococcic antisera, practically discarded subcutaneous injection, except in

cases in which there was especial difficulty in practising an intra-lumbar injection, or in which only a very small amount of fluid could be obtained in lumbar puncture. The safety of direct injection into the spinal canal had previously been proved by Jochmann and others.

Selection of Cases.—To insure that a thorough test should be given to the serum I from the first determined that no case should.

Results of Injections.—Just as headache and restlessness, and less frequently faintness and tendency to collapse, follow the subtraction of too much fluid, so headache, pain in the back and legs and restlessness follow the introduction of too much serum. Unless more fluid is being injected than has been withdrawn these symptoms may be safely disregarded. In other cases, however, they must be taken as a sign to stop. Many patients seem to experience considerable relief and become quieter after the serum is given. A minority suffer much from headache, and some children scream persistently for an hour or two.

In favorable cases there is usually a lower temperature next day, and frequently less delirium and some return of consciousness. The complexion, so often cyanosed at first, regains a healthy color. The pain in the head and back of the neck becomes less. The head moves forward more easily, and there is less retraction. Occasionally after one or more doses something of the nature of a crisis occurs, the bad symptoms disappearing very suddenly. Flexner lays great stress on this point, and I am bound to agree with his contention that the natural termination of the disease is by lysis, with only gradual improvement in the symptoms.

Warts and the X-Rays.—There are a great many warts, especially in children, that require no treatment at all, for they cause little or no discomfort, and by the age at which personal appearance becomes a prime consideration they very often disappear spontaneously.

Nevertheless, there are patients who suffer from warts to such a degree that the

¹C. B. Ker, F. R. C. P., Edin. Med. Jour., Oct., 1908, p. 306.

doctor is asked to remove them, and it is worth while to know that the very simplest way of getting rid of a wart is by a single application of the x-rays. The mode of application in the case of warts is very similar to that employed in ringworm. The wart does not fall off during the actual application, but within a week or ten days afterwards it simply drops off, leaving smooth and healthy skin behind it. The time occupied by each sitting is something between fifteen and thirty minutes, and no dressings or other applications are required. The procedure gives a minimum amount of trouble to the patient, a maximum of certainty of immediate cure, and no scarring.

One kind of wart which is particularly annoying to its possessor is that which grows upon the scalp amongst the hair. Every time the head is combed the teeth of the comb may catch the wart, and give rise not only to acute pain, but also not infrequently to bleeding. These warts may occur in people who are quite grown up or even past middle life. It is as easily cured by an application of the x-rays as are the warts upon juvenile hands.—*The Hospital*.

GENERAL TOPICS.

Let Physicians Diagnose and Prescribe and Pharmacists Dispense.¹—What is sauce for the goose is usually pretty good dressing for the gander, and before druggists cry out against dispensing by physicians they should see that they themselves are free from the offense of prescribing without being licensed to practice medicine. There are pharmacists who do not undertake to carry on a quack-doctor's business, who practice pharmacy and not near-medicine, and these are the ones who have a right to ask and expect physicians to co-operate with them. We do not see how a druggist can have the face to conduct a gonorrhea clinic and dispensary in his back room, fill his show windows with "consumption cure," and advertise himself as the proprietor of a rheumatism or dyspepsia remedy which "cures after physicians have failed," and then go to a "get-together" meeting and talk to doctors about the era of good feeling, and fairness between the two professions, and urge them to send their prescriptions to the drug store to be filled. Yet, we believe, there are druggists who do this. They may think they are fooling the physicians, but they are not. Those druggists who do not try to carry water on both shoulders in this way should let that fact be known among physicians, and reap their reward. * * * *

Treatment of Puerperal Mastitis.—

Feiner (*Deut. Zeitsch. f. Chir.*, Bd. 94, Hft. 3) considers antiphlogistic measures sufficient in cases of recent mastitis, nursing being discontinued and the breast enveloped in a wet dressing. In circumscribed mammary abscess a small incision followed by the use of the Bier suction cup proved very serviceable, recovery ensuing in from four to twelve days. In cases of interstitial or parenchymatous mastitis the method of Bardenheuer was employed, the diseased portion of the parenchyma being exposed by an elliptical incision and the diseased tissues completely removed, this being followed by drainage. This method gives the best cosmetic results, since the cicatrix is covered by the breast. The most severe form of mastitis, the gangrenous, is treated by the removal of the necrotic area. In tuberculous mastitis the breast should be removed.—*Int. Jour. of Surgery*.

The shoemaker should stick to his last, and the physician to the practice of medicine. Pharmacists cannot regulate the affairs of the world or even the affairs of physicians, but each one can regulate his own business and when he has done this properly he will find that he has not only aided the cause of the better practice of medicine, but that by improving the condition of the portion of the world with which he is most intimately associated he has done something toward improving the world as a whole.

Business Methods in Medicine².—Burdick says in his trenchant article on *The Physician as a Business Man* that it is

¹The Druggists' Circular, May, 1909.

²G. G. Burdick, M. D., *Am. Jour. of Clin. Med.*, Jan., 1909.

estimated by men who have spent many months gathering statistics that charity abuses in this city cost every Chicago physician about \$2,500 a year loss in fees. For the honor of making great medical and surgical idols, surely hero-worship comes high, and while it may be a good thing in a way, it doesn't look well with ragged underwear. Now, why do doctors do these things? Why can't they conduct their affairs like rational beings? Why pay such a large advertising bill for such a poor return?

What earthly reasons exist to prevent a physician who desires to build up a practice in a community from sending to the residents a card announcing his location, hours, and the kind and character of the work he desires to do? Why put the burden of finding all this out on the patient, so that he has to make preliminary calls on the eye-man, the G-U specialist, and the obstetrician when he wants an internal-medicine man to look at his tongue?

Who wouldn't condemn business men if they all occupied stores just alike, dressed their windows in the same way, and charged an admission fee when anyone entered? Suppose you were in a hurry to get your ham for breakfast, and got into a hardware store by mistake; and just suppose you put up a vigorous kick to the business man and asked him why in thunder he didn't label his stock so an innocent and guileless doctor shouldn't buy a gold brick occasionally. Just suppose he should swell out his chest and tell you in a pompous way that it would be "unethical!" Wouldn't it make you mad?

As a business man, the doctor hasn't passed the stone-age, and won't till he makes up his mind to think independently for himself and not let a lot of prosperous medical politicians who have worked medicine for every dollar there is in it do all his thinking for him. Just remember that ethics mean righteousness and honesty, and if you stick to these, your methods are not so very important.

Diet in the Treatment of Diabetes.—

Kolisch (*Brit. Med. Jour.*) considers the dietetic treatment of severe diabetes as the most important. He advocates: (1) The

intake of food should be reduced to a minimum, because the more food that is injected the more glycosuria will be present.

(2) The proteids should be reduced in quantity, because large quantities of proteids are most irritating to the plasma cells and most liable to cause breaking down of the cell with increased glycosuria. (3) The diet should contain as much of carbohydrates as can be taken without increase of glycosuria. The author has found that the patients will often put on weight and strength on such a vegetarian diet. The diet is made more liberal as the glycosuria diminishes and believes that the number of calories needed is less for a patient than a normal person if the diet is suitably chosen.

THERAPEUTIC NOTES.

Bismuth Subnitrate Poisoning¹.—Beck concludes his valuable paper as follows:

1. Bismuth subnitrate administered by stomach in small doses is harmless.

2. In the presence of certain bacteria, or the feces of children, bismuth subnitrate will liberate nitrites, which will be absorbed by the intestines and eliminated by the kidneys; and if the production is faster than the elimination, methemoglobinemia will result.

3. In larger doses per os bismuth subnitrate is liable to produce an acute nitrite poisoning, characterized by cyanosis, collapse, methemoglobinemia, and may terminate fatally.

4. Rectal injection of bismuth subnitrate may cause nitrite poisoning much quicker and more severe than when the drug is administered per os.

5. Children are more susceptible to nitrite poisoning from administration of bismuth subnitrate.

6. Persons suffering with intestinal putrefaction are more susceptible to nitrite poisoning when taking subnitrate of bismuth internally.

7. After the injection of large quantities of bismuth paste into suppurating sinuses, mild symptoms of nitrite intoxication may appear.

¹E. G. Beck, M. D., Chicago, Jour. A. M. A., Jan. 2, 1909.

8. The bismuth injected into these sinuses and encapsulated will be gradually absorbed and may be found in the liver, spleen, muscles and intestines.

9. Characteristic symptoms of black borders of gums, ulcerations of mucous membranes, diarrhea, desquamative nephritis, may appear for several weeks following the injection of the paste.

10. The acute nitrite poisoning is to be regarded as a distinctly separate affection from the more chronic bismuth absorption.

11. Radiographers should employ some other preparation of bismuth instead of the nitrate, and refrain from injections of subnitrate into the bowels, especially if intestinal putrefaction is present.

Apomorphine as a Hypnotic in the Acute Manias¹.—Dr. C. Douglas, of Boston, discovered the hypnotic properties of apomorphine in 1899, but the fact has remained almost unknown. Dr. Roseburgh, secretary to the Ontario Society for the Reformation of Inebriates, states that he has found the drug most useful as a hypnotic in alcoholism. In doses of 1-20 or 1-30 gr. it acts as promptly as it does as an emetic in doses of 1-10 gr. However wild or noisy the patient he usually sleeps peacefully in 10 or 12 minutes. The sleep may last 10 or 12 hours, after which he awakes refreshed and sober. The writer seems to think that the discovery of this use of apomorphine will mark a new era in the management of cases of acute alcoholism and delirium tremens. In many hospitals patients in these conditions are far from welcome, but when it becomes known that a safe and prompt hypnotic is available they will be admitted more readily.

Boric Acid Poultice.—Mix a tablespoonful of cold water starch and a teaspoonful of boric acid with a little water; add the mixture to a pint of boiling water and stir the whole until a uniform mucilaginous mass is formed. When cold spread the jelly thickly on cotton and cover it with

a piece of muslin. Then apply to the part. A good plan is to put on the poultice at bedtime and to remove it in the morning. It is useful in acute and subacute skin affections to cleanse and soothe prior to the applications of ointments, etc.—*The Hospital*.

The reason that gonorrhea is not universal (from laundry, contact, extensive distribution) is because the gonococcus becomes inert on exposure to the atmosphere for four to six hours.—*Robinson*.

We talk a good deal about prosperity, but prosperity depends upon effort and effort depends on health. We speak a good deal of our natural resources but our natural resources were all here before mankind benefited very much from them. The basis of the great work of the Empire State is the health of the state, and the means of protecting our people from unnecessary infection and from the unnecessary and unprofitable spread of disease is being more keenly realized.—*Governor Hughes*.

Treatment of Hemorrhages with Gelatin Injections.—In post-operative hemorrhages Dr. Chaput (*Muench. Med. Wochens.*, Feb. 9, 1909) has obtained excellent results from subcutaneous injections of 5 cc. of a 1 per cent. solution of gelatin. Instead of at once opening the wound he delays doing so several hours in order to give the patient a chance to recover from the effects of the hemorrhage, which is promptly arrested by gelatin injections. This treatment has given good results in cases of ruptured tubal pregnancy and other forms of internal hemorrhage. The gelatin solution should be sterilized, as recommended by Chauffard.—*Int. Jour. of Surgery*.

Hoarseness.—Ten drops of dilute nitric acid three or four times a day in sweetened water is recommended for this condition by Ellingwood. Singers and public speakers will find this an excellent remedy. If immediate benefit is required, use three or four drops on a square of loaf sugar and allow it to dissolve on the tongue slowly, drawing the air into the lungs over it.—*Therapeutic Record*.

¹A. M. Roseburgh, M. D., Canadian Practitioner, Oct., 1908, p. 669.

Boric Acid Poultice.—The following is recommended by *The Hospital* as useful in acute and sub-acute skin affections to cleanse and soothe prior to the application of ointment, etc. Mix a tablespoonful of cold water starch and a teaspoonful of boric acid with a little water. Add the mixture to a pint of boiling water and stir the mixture whole till a uniform mass is formed. When cold spread the jelly thickly on cotton and cover it with a piece of muslin and apply. It is a good plan to put on the poultice at bedtime and to remove it in the morning.—*Therapeutic Record*.

SOCIETY PROCEEDINGS.

EASTERN MEDICAL SOCIETY OF THE CITY OF NEW YORK.

Stated Meeting May 14th, 1909, the President, Dr. Wolff Freudenthal, in the chair.

The regular monthly meeting of the Eastern Medical Society was held on May 14, 1909, the President, Dr. Wolff Freudenthal, presiding. The following case reports were presented:

- (1) *Abnormalities of Sigmoid and Lateral Sinus*, by Dr. S. J. Kopetzky.
- (2) *A Case of Adeno-lipomatose Symetrique*.

Dr. M. Neustaedter then read a paper on *A Contribution to the Study of Tremors*. This was discussed by Drs. Felberbaum and I. Strauss.

The next paper was *The Special Senses in Hysteria*, by Dr. Henry S. Oppenheimer. This was discussed by Dr. Ballin and others.

The next paper was on *Diarrhoea in Infants*, by Dr. Jos. E. Winters. This was discussed by Dr. A. Hymanson.

The following physicians were recommended to the Executive Committee and elected to membership: Dr. L. A. Ewald, Dr. L. Gelb, Dr. A. H. Gittelson, Dr. C. Goldenthal, Dr. Ernest Sachs, Dr. N. Settell and Dr. Udo Wile.

The meeting then adjourned to partake of a generous collation by invitation of Drs. E. H. Eising, J. Fraenkel and O. Glogau.

The Paroxysm of Asthma.—The best treatment (*Jour. A. M. A.*) of the paroxysm of asthma must be decided by a careful study of each individual patient. There is no one best treatment for the asthmatic attack. The drug that most frequently is successful in rendering the patient comfortable and shortening the paroxysm is, of course, morphin, but before the physician begins the treatment of the asthmatic attacks with morphin he should have exhausted his other resources, as he is not sure that he can cure the asthma, even if he removes the reflex cause, and such patients readily acquire the morphin habit. If a given patient is incurable under the surroundings and conditions in which he must live and no other drug will relieve his suffering, he doubtless has the right to receive morphin, even if he does form the habit.

In the diagnosis of mammary tumors always compare the affected breast with the normal one.

One of the important points in anesthesia, which is not infrequently forgotten, is to determine before its induction whether the patient can breathe freely through his nostrils. Nasal obstruction will prove more or less of a barrier to efficient anesthetization, and under these circumstances it may be advisable to let the patient inhale the anesthetic by way of the mouth, this being facilitated by placing a prop between the teeth.

In acute suppurative otitis, peroxide of hydrogen must be carefully used, if at all, since, as pointed out by Dr. E. P. Fowler, it may be dangerous on account of its explosive character by driving infectious matter into the mastoid antrum.

Pain in the back or extending down the leg, and sometimes simulating sciatica or lumbago, may be due to chronic prostatic disease. It is wise never to make an off-hand diagnosis of sciatica until every source of possible reflex pain from local organic disease has been eliminated by careful examination.—*Int. Jour. of Surgery*.

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American Medicine

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PUBLISHED MONTHLY BY THE AMERICAN-MEDICAL PUBLISHING COMPANY.

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Complete Series, Vol. XV, No. 6.
New Series, Vol. IV, No. 6.

JUNE, 1909.

\$1.00 Yearly
In Advance.

The Atlantic City Meeting of the American Medical Association has passed into history. The attendance, to the great surprise of many, was smaller than it has been for several years. The secretary's report showed that the total membership was 33,935 on May 1, 1909, a net gain for the year of 2,592. This gain however covers the registration at Chicago last year, which was, if we remember rightly, the largest in the history of the Association. With such a membership, this year's attendance of less than 3,300, less than 10% of the whole, should furnish material for serious consideration. The meeting place could not have been more accessible and it had many attractions of its own which should have helped to swell the attendance, rather than otherwise. The scientific program was one of the best ever provided. In every section the subjects discussed and the men represented promised more of interest than ever before. In fact there was every reason for anticipating a record-breaking attendance. The weather, which was bad throughout at least three consecutive days, doubtless kept a few local physicians away, but this could hardly have been the reason for the whole falling off. We must confess to being "all at sea" concerning the real causes for this year's decline in the attendance. Those who arranged the meeting and did everything that human beings could to

assure the success of the affair, deserved far better support. It is easy to understand the enormous amount of labor involved in systematically arranging a meeting of the character and importance of these of the A. M. A. Too great commendation cannot be given to those who were responsible for the admirable system in evidence this year. The registration, the exhibits, the section arrangements, in fact everything done to contribute to the convenience and pleasure of the members, left room for nothing but deserved approbation. It is a fair statement to make, therefore, that in spite of a decreased attendance and more or less bad weather, this year's meeting was one of the best, most interesting and most profitable from scientific standpoints, ever held. Those who stayed away lost much.

The Association is very prosperous judging from the records and reports for the year. Its progress during the past decade has been phenomenal and unlimited credit is due to the executive ability and efforts of those who have accomplished so much. Criticism and complaint have been common. Some of this has been merited. But any man is most unfair who is unwilling to unreservedly commend the great success that has been so certainly achieved. That great good has come from the herculean labors of those who have been trusted with executive control is abundantly shown in many

ways. That this great good is sure to multiply in the future, we earnestly believe. Every American medical man owes it to himself and his position in his community to become a live active member of the American Medical Association. If he does not do so, he is neglecting a great opportunity and forfeiting a valuable affiliation that goes with his profession.

Let it not be thought, however, that our earnest appreciation of this great American institution blinds us to any of its faults. Much as we commend its good, which is so great and substantial, we still regret the evils that have undeniably crept in. Fortunately these are structural and not fundamental. In the first place we regret the centralization of its control and management. The individual member is absolutely eliminated and has no voice either in the creation or direction of policies. No provision has been made for revision, veto or the referendum. A few, very few men are in absolute control of the legislative, executive and judicial functions of this body of over 33,000 medical men, and the fact that so few of the acts of those in control have been deserving of criticism, does not alter the possibility that the personnel might so change that the gravest abuses would suddenly arise. A few unscrupulous men elected to the offices of those who are now in direct control, could use their positions for private and personal gain in a way that would bring tears of envy to the eyes of the most corrupt and powerful politician. The membership would be helpless. Nothing could be done to correct the condition, and the only way for the individual member to protect himself would be to resign, and withdraw from his affiliation.

Provision for a power of veto should be made. As Dr. Burrell said in his address the president is now only a figure-head. The constitution should be straightway revised or amended, to give the individual member more voice in the administration of the business of the Association. Either arrangements should be made to present all material questions to the vote of the members attending each meeting, or what is far better *the president should be elected by the members in attendance at a general session provided especially for this purpose.* The president should then be given power of veto over every legislative act of the Association. As the direct representative of the individual members the president would then stand in the position of protecting the membership against any possible tyranny or unwise act. One trustee should also be elected each year by the members in open session. We feel sure that some arrangement as above outlined, would satisfy those who are dissatisfied with the present centralization plan. It is foolish to deny that there is a growing feeling on the part of many members that the Association under present conditions is owned, controlled and directed by a small ring of Chicago physicians. It will be a calamity of great seriousness for this idea to grow and extend. The splendid work of the past ten years must not be jeopardized by suspicion. Men who have been big enough and capable enough to have brought the Association to where it now stands, should be big enough to meet this question of the protection of the individual member.

We believe in the Association, we are proud of its successes, and nothing do we desire so much as to see this great ag-

gregation of earnest medical men become the most important factor in the health and welfare of the nation. It assuredly will, if the spirit of democracy is given the opportunity that every American institution must have. But if an autocracy is developed and close corporation methods are pursued, with obliteration of the individual member, nothing but ultimate disaster can be expected, at least as far as humanitarian ideals are concerned. We have faith enough in the wisdom, sound judgment and motives of those in present control to expect some early provision for securing and recording the will of the individual members on every important question. This is all the Association needs to assure its future and make the good that has been accomplished a monument to those who have in any way contributed to it. But if our faith is ill founded and the unlimited control of the Association continues in the hands of so few men that the Association becomes what so many fear, an absolute monarchy, then will the future hold for it naught but the fate that history shows all absolute monarchies have suffered. Nothing could be sadder, in view of what has been accomplished and the splendid possibilities ahead, than to witness a schism of the members, a schism made necessary to secure the rights and privileges that belong to every individual in a free and civilized country. God defer the day when any such thing shall be necessary, but when a condition involving the rights and self respect of the individual members of any organization becomes intolerable, there is often only one line of action. Our earnest hope and desire is that the men who have brought the Association to where

it now is, will hearken to the rumblings and signs of trouble before it is too late.

Cannibalism quasi-endorsed by science will not tend to popularize the one, nor increase respect for the other. This latest perëgrination of the scientific mind is one more illustration of the lengths to which inductive logic will sometimes carry a really industrious savant. Much has been written of late concerning the protein diet, and many scientists have attempted to define the ideal ration fulfilling most satisfactorily the daily demands of the human body, with minimum tax on the metabolic process. It remained, however, for an English physician, Dr. Frederick Gowland Hopkins to cap the climax in a recent lecture when he said "the most sensible person choosing an effective protein is a cannibal. In consuming his own kind he is eating exactly the right kind of stuff." In principal support of his contention he cited the experiments of an Heidelberg chemist who claimed a short time ago that dogs fed on the flesh of their own kind were able to get along with relatively less amounts of the proteids thus supplied.

The temptation is very great to treat Dr. Hopkins' statement facetiously, but it is so evident he offered it seriously that it calls for more or less serious consideration. Without a doubt he wished to convey the idea that the cannibal in eating the flesh of his own species obtains proteid material that in its molecular character so closely approximates tissues to be replenished, that the assimilation or ultimate conversion becomes very much simplified, and waste is correspondingly reduced to a minimum. His statement

for the purpose of presenting these ideas is entirely comprehensive, but it conjures so many gruesome and ghastly visions of barbaric feasts, that the fundamental thought is completely obscured by its sensational character and the gross offence offered to the humane and esthetic instincts of even the least sentimental among us.

The question of the best protein diet

by no means will be settled by this sensational statement of Hopkins. Since it has been definitely established that the proteid of human tissues is fixed in its molecular character, the plea of the dietetists has been for a proteid diet approximating as closely as possible the proteid of the body. It is doubtful if any diet, placing a minimum tax on the processes of metabolism would be the best in the long run. In weakened states it may often be both necessary and desirable. But in a condition of health and normal vigor, proteids placing more or less tax on the enzymes of the tissues and cells are beneficial. We know that these working elements of living tissue are adaptable, that they rise to a situation and become fitted to presenting conditions. As the work increases their capacity increases and as the work decreases they lose their power. Thus it is possible for individuals to become adapted to diets, and this is simply a provision of Nature, to assure the perpetuation of species in the face of the exigencies of environment.

Study of peoples and races has shown conclusively that the strongest have been developed on foods of greatest variety and complexity. Range of digestive and assimilative power has meant intellectual, physical and political progress, while the

nations of limited and simple diets have been obliged to keep far in the rear. This is as true as any fact definitely proven by history. It would seem, therefore, that the complex diet, or the diet calling for increased work on the part of the enzymes does have a beneficial influence on individuals. With increased enzyme action to meet the needs of breaking down and building up complex molecules, there is a corresponding increase in cellular activity throughout the body. All of these ferments have complementary or reciprocal functions and the activity of one is reflected in many others. Functional activity of the cells throughout the body as a result of varied or complex diets, includes physiological stimulation of the brain and nervous system, with all that this necessarily means on the mentality and intellectual capacity of the individual. Therefore, while simple diets may present theoretical advantages in reducing to a minimum "wear and tear" on the metabolic machinery of the human body, and may even conduce to longevity by reducing waste accumulations, we doubt very much if these would compensate for the loss of mental and physical vigor that would inevitably follow their adoption. Our acquaintance with cannibals has been very limited, but from all that we have been able to learn their abilities never get very far beyond the gastronomical. Fortunately, modern ideas lead to other aspirations, so most of us will continue to take our chances with the more complex proteids.

The deaths from small-pox of two more antivaccinationists have just become known though the occurrences are now some years old. The Reverend Mr. — was the

chaplain of the First Tennessee Volunteers, and when he went to the Philippines in Nov. 1898 he positively refused to be vaccinated, because his theological mind could not believe in it. Two months later he died of smallpox in Iloilo. A lieutenant of the 28th U. S. Infantry, likewise thought he knew more than the military surgeons and he was a rabid antivaccinationist as well. He too went to the Philippines in 1903 or thereabouts, positively refused to be vaccinated and disobeyed the order requiring it before landing. He served with his regiment a few weeks in Cavite, developed smallpox en route to Mindanao and died a few days later.

Preventable pension expenses are shown to exist by these two cases. Each of these men left a bride to mourn his wilful death, each was begged by his wife to permit vaccination, and each preferred to disobey military orders rather than give up a delusion. Each died for unsoldierly conduct, and the pension roll is swelled a little more. No wonder the public is resentful of pensions, due to vicious violation of the sanitary advice of military surgeons. It does seem that it is time to punish such conduct instead of rewarding it. It is also time for Congress to take steps whereby a wilful violation of sanitation which jeopardizes an army efficiency and causes an increase of the pension bill, shall be followed by the dismissal of the incompetent officer who permits it, for they are guilty of conduct injurious to the country.

The slow decadence of the antivaccination propaganda is due in great part to the deaths by smallpox of the propagandists. Quite a number of instances

have been recorded of such deaths right in the midst of their nefarious work. Yet it is a perfectly natural phenomenon, for that is the way nature always works—killing off the unfittest of any environment. The vaccinated are the fittest for survival where the infection of smallpox abounds. Is it the duty of the medical profession to allow nature to end the antivaccination crusade in her way of killing the crusaders, or shall we continue the arguments which have been unconvincing to warped minds for over a century? Shall we compel these incorrigibles to be vaccinated and preserve them to continue their illogical conduct and bring deaths to many more?

Quarantine for smallpox is thus brought up for renewed discussion. Some sanitarians are quite positive in the opinion that quarantine is a useless waste of time and money. A case of smallpox is perfectly harmless, they say, if the neighbors are vaccinated. The disease is never contracted by the doctors and nurses of pest-hospitals. It is argued that isolation is a relic of pre-Jennerian days when it was the only thing to do. The danger of abolishing quarantine is to the infants, who may be too young and frail to be vaccinated but even here experience seems to show that such cases are somewhat hypothetical. The matter certainly is far from settled and is still open for discussion.

Compulsory vaccination also comes in for a revision of opinions in order that we may be sure we are right. The medical profession has been almost unanimous in advocating stringent compulsory laws, but such measures had to be abandoned in

England by reason of the opposition of the anti-vaccinationists. Publicists decided that if vaccination was protective, let those survive who wished and let the others die if they desired to run the risk. It seems cruel, but after all it was the most natural thing to do. Vaccinated children are perfectly safe, even if the unvaccinated bring the infection to the school room. A century of argument has not killed the disease except in little spots here and there in Europe, and the infection will probably exist in the tropics for some centuries more, if not forever.

The quickest way to eliminate smallpox is the end in view even if that end is far off. For a long time men must protect themselves from a danger they cannot eliminate. Though it may be repugnant to the vast majority of the medical profession, it does seem that the quickest way to end antivaccinationism is to let the antivaccinationists end themselves. Let them nurse the smallpox cases if they have the courage of their convictions, or even compel them to take charge of pest-houses. After they are all dead, vaccination will be accepted by the survivors as a matter of course, and there will be more chance of eliminating the disease. Then it will be possible to pass laws by which men may be severely punished if through neglect their children contract the disease. Even now the fear of punishment might be more effective than our efforts to compel. Demonstration is always more efficient than argument or force used against one's will. A burnt child dreads the fire, and an afflicted community will dread the antivaccinationist. At the same time the policy of non-compulsion will allow preventable deaths for a time. No one

should be permitted to risk his life unnecessarily, but it is doubtful if it is possible to compel people to have sense if they are not possessed of brains. They will destroy themselves in spite of all we can do.

The successful San Francisco war on bubonic plague is a brilliant example of what can be done through educating the public. It appears, from the history recently published by the Citizens' Health Committee, that the first outbreak of 1900 though confined to the Chinese quarter, was not suppressed until 1904, and that some undiscovered focus, perhaps chronic cases among rats, kept the bacilli alive and spread them; so that in the spring of 1907, the rat population was highly infected and again transmitting the disease to man. In the meantime the city had been prostrated by earthquake, fire, industrial disturbances and graft so that when it was finally realized that the municipality was incompetent to cure its own ills, federal aid was summoned, the Public Health and Marine Hospital Service took charge in the fall of 1907, and a sanitary campaign begun by Dr. Rupert Blue and his executive officer, Dr. Colby Rucker, both of whom have shown remarkable genius for such work. The cold weather suppressed the flea so that human cases diminished but the rats huddled together more and their epidemic increased, and it was realized by Dr. Blue that without the assistance of every soul in the community, the diseased rats could not be destroyed.

A model method of arousing a community to sanitary reform was then devised by Dr. Blue, who caused the creation of a citizens' committee by the mayor. They

in their turn caused the organization of committees in every group of citizens,—merchants, manufacturers, labor unions, churches, schools and clubs—meetings were held, lectures delivered, circulars distributed and money collected. Then came the real work of starving the rat by keeping garbage from him, of destroying his homes under wooden floors, replacing the floor by concrete, and of raising cellarless buildings so that cats could get at rats. Rats were caught or poisoned and as their number diminished and the sick among them had fewer chances of spreading the disease, the number of infected gradually diminished, though the work is to continue for one year after the last diseased one is found. All this has required hundreds of inspectors and laborers but the result justified the means.

The sordid side of sanitary work is seen by the only manner in which San Francisco could be aroused to effort—self interest. As long as any community is uninjured, it never cares a rap as to what diseases it spreads to neighbors, and in this case, it was necessary to enlarge upon the money losses which would follow if the rest of the country quarantined against them. This is the rule the world over, and even in the matter of water supply and sewage disposal it is always necessary to show the money saved by lessened morbidity and mortality. In addition, it is said that no city can afford all the expense, and as in this case, the whole country must contribute through the federal government and its supply of personnel and material. It is one more argument for the urgently needed central health department in Washington.

Plague among ground squirrels is the disquieting side of the matter and one of national concern. It is generally believed that the *bacillus pestis* is a normal inhabitant of some Asiatic rodent—perhaps the rat,—but, from the excessive mortality among our rats, it is not likely that they are the ones with the tolerant immunity which keeps the bacillus in existence, for it is a pure parasite in nature unable to exist out of the body of some animal. So it is not at all unlikely that the ground squirrels of California now known to be infected have sufficient tolerance to keep the bacillus alive permanently in America. It will die out in time, as the cholera bacillus always does when removed from India. Yet we do know that for a long time it will be possible for the ground squirrels to infect rats of adjacent towns and start new epidemics. It is high time to take up the European demand for a world wide war on domestic rats, which subsist almost exclusively on the wastes of human habitations. Protection or destruction of garbage and the destruction of rat nests are essentials of existence now that populations are so dense. The rats must disappear, and the only way to do it is to starve them to death. Stables are the chief culprits and it is time for a revolution in their methods of management.

A Plea for a Wider and Better Extension of the Knowledge of Sanitary Science is the subject of a most timely address given by Professor W. P. Mason, at Lafayette College Founder's Day. (*Science*, April 23, 1909). He mentioned the sad fact that even physicians are sometimes ignorant of practical sanitation though that

is to be expected now that medicine is so specialized, yet there is no excuse for ignorance of matters which even laymen should know. Mason urges a campaign of education—not a spasmodic one, as in San Francisco—but continuous, in schools, churches, by public lectures, the lay press, special publications, and a national health bureau. He shows that for every death either directly or remotely due to alcohol, there are nearly two from typhoid and nearly 15 from tuberculosis, and yet the law here and there requires instruction in the ways of avoiding alcoholism and uses misleading text books written by medical ignoramuses, but wholly ignores sanitary instruction in the avoidance of the main causes of sickness, degeneracy and death. Professor Mason is to be congratulated upon calling attention to the need of popularizing sanitary knowledge. We are too crowded for our present means of removing wastes and unless a proper public opinion is created we cannot expect much further reduction in sickness and death.

New Hampshire's sanitary halo has been made big and luminous by the legislature which recently adjourned. Not only have the health authorities been given power to enter stores and inspect foods so that a most excellent pure food law can be enforced, but all places where the public obtains drinking water, must have the water examined once a year by the State Board of Health. A war to the death has been declared against the typhoid bacillus, and in a short while all the world will realize that if they visit this part of New England, they are safe from the disease. No more are we to hear the sad news of some friend's death by typhoid contracted on his summer vacation—at least if he

goes to New Hampshire. The rest of the country should take warning that it will not be so very long, when courts will decide that typhoid is entirely preventable and that he who contracts it in localities which are unsanitary can collect heavy damages. In some communities the neglect of the ordinary laws of cleanliness is so flagrant that typhoid exists appallingly in the summer and fall. Such a state of affairs should really condemn the people as uncivilized and warrant ostracism from respectable society. Now let the war on dirty milk dealers be inaugurated in every part of the land.

The economic problems of the practicing physician are becoming more serious day by day. Particularly is this so in the large cities. The average income has shrunk to proportions that make the average weekly wage of many mechanics decidedly attractive, but still the demands for special equipment and apparatus have gone steadily forward. It is probably true that fifty to sixty per cent. of the physicians in New York City—and in many other large cities as well—are not earning fifteen hundred dollars a year. When one stops to consider the modern cost of living in any large city, and the special drains on a physician's income, the hardships that are being encountered by a considerable portion of the profession can readily be seen. That this condition is deplorable, that it hampers medical progress and independence, and that it exposes many good men to innumerable perils must be admitted. It is not right and there is a flaw in the system somewhere that will allow so many bright clever young men to work like beavers for four or more years to fit them-

selves for a life work, only to find that at least half of them cannot make a living sufficient to suitably support a home and family.

Many different reasons have been suggested for existing conditions. Every one who has given the matter serious thought sees in some one evil or particular condition, the exact cause of the present low ebb of medical incomes. To one the growth of free hospitals and dispensaries is at fault; to another it is the growth of new "schools" and "pathies"; and to still another it is the development of state and preventive medicine. In a sententious letter to the writer Dr. Beverly Robinson one of the most thoughtful and capable physicians of America, whose opinions are always worthy of the deepest respect, ascribes present day conditions to the overgrowth of specialism. He says:

"To my mind, the whole trouble hinges or depends upon one thing essentially, and it is the greatly exaggerated value of specialism and the sad depreciation of the general practitioner. Specialism has come to stay, you and others may say, and that is true. But the specialist in his own eyes and in that of the discerning public, should be made subservient in proper and just degree to the general practitioner. So soon as his advice is sought and followed, he should henceforth place the general practitioner in the role of consultant, and should by his behavior and statements make it clear to the patient and friends, that while he is filling a place and properly, his duties and function are primarily of far less real value than those of the family adviser.

It is up to the medical profession to teach the ignorant and thoughtless public the truth of this again and again, by precept and example, and later perhaps, the medical profession will again get its own, its right and commanding position of lone authority and independence."

There is unquestionably a world of

truth in the foregoing and the too rapid growth of specialism, beyond all needs and demands, has without a doubt contributed materially to the present unfortunate condition. Other causes have been active also and the profession are confronted by conditions that are grave in the extreme.

What of the future? It is foolish to get pessimistic or panicky. There must be solutions for the problems presenting, and like all other questions that have arisen in the unfolding of civilization, these disagreeable situations will adjust themselves. Whether every medical man is destined to be an employee of the national or state government, or whether the socialization of the medical profession as suggested by that brilliant Irish philosopher and dramatist, George Bernard Shaw, is to take place, no man can tell. It is possible as Benedict has recently suggested that we can educate the people to pay us a yearly retainer, with a view of inducing them to come to us to keep them well, rather than to utilize our services only when they are sick. No matter how the problem works out, it is certain that the members of the noblest, cleanest and most unselfish profession on earth will be found ready, keen and fully equipped to fit into any place that society provides, or the exigencies of civilization demand. And it is entirely safe to predict that the medical woof and warp that are woven into the social fabric will contribute their full share to the strength and utility of the whole. There is something about medical training and aspirations that make every physician responsive to his duty in a way that the followers of other callings rarely understand. History has proven this in every great

crisis that humanity has been called upon to meet, and so there is no little satisfaction to be derived from the fact that despite unfortunate economic conditions that will require time for their adjustment, the individual physicians whose fortunes and well being are most involved, are today better equipped and prepared to cope with the ills of mankind than ever before. Herein, thank God, lies the safe and certain future of scientific medicine.

Truthful labeling seems to be demanded by people who formerly gave no thought to commercial dishonesty. Everyone believed that there were tricks in all trades except his own, but now that trickery has been found universal, there is an overwhelming and yet increasing volume of public opinion demanding that every article offered for sale shall be exactly what it purports to be, or that the maker and seller be sent to jail as public enemies. There has been no greater development of public conscience in the history of the world, though it follows directly upon the indignation aroused over the revelations of the manner in which the consumer has been so disgracefully deceived, particularly as to food stuffs. This new demand has nothing in common with the crusade to prevent trade in things deleterious to public health, for that is a matter in which the public is hopelessly bewildered by the conflict of alleged experts, but it is an irresistible movement for honesty. Every buyer knows that he cannot possibly test his purchases as in past ages, and is now wholly dependent upon the seller. Articles once made expensively in the home, are now made cheaply in the factory by machinery and sold in sealed packages. The new industrial era is here to stay and we

must adjust ourselves to it or be ostracized from the social organism.

Every purchaser claims the democratic freedom to buy what he pleases and at the last analysis he is the judge of what it is good for him to buy and use. The government cannot interfere in this right except in the sole instance in which the transaction is injurious to others beside the buyer and seller. The government's duty is the analysis of commodities to detect the new crime of offering things under deliberately false pretenses. Of course it will take time to define terms, particularly where a trade name has been in use a long time, nor can we expect the revelation of trade secrets. The prosperity of a country depends upon the protection afforded an inventor who discovers a way of doing something better than everyone else, but that is no warrant for an inventor falsely stating that his product is something different than it is. The bearing upon public health of this new demand is the fact that as time goes on, it is discovered that practices once believed to be mere frauds having no effect upon health, are really more or less harmful, particularly in what might be called the secondary foods—the condiments, delicatessen and tidbits generally, for all of which in moderation we have a wholesome craving. Consequently while we are determining the meaning of terms and the effects of preservatives and other ingredients, let us all join in the crusade for accuracy of description so that nothing is sold or bought under deception of any kind. The scoundrels who have fattened on the most disgusting practices must be driven out of business, and honest manufacturers no longer injured by the black sheep among

them. Public health will be the gainer as well as public morals; when it will be impossible for instance, to buy cottonseed oil for olive oil, as these two foods do not replace each other by a long shot. It does seem that a very extensive increase of public analysis is demanded in all municipal and state health organizations. Even the matter of clothing frauds is indirectly connected with health, and one in which the medical profession can interest itself, though in such commodities as building materials, fertilizers and the like, the relations to hygiene are so remote that other professions and trades must take up the crusade for honesty of labelling.

Diagnosis and the General Practitioner.

Diagnosis is the determination and valuation of the phenomena of disease. In its fullest sense, it comprehends the determination of causes, a recognition of aberrant or pathologic processes, an interpretation of symptoms, and an estimation of probable consequences. To be positive and accurate, diagnosis must be based on exact facts. These in turn must be obtained by exact methods of observation and investigation. The variations to which the living body is subject would alone give to pathologic processes wide difference of expression. But there are in addition many other modifying influences such as climate, season, atmospheric changes, environment, and so forth, so that diseases of every type are largely defined by the individual equation.

It is true that most diseases have certain protean characteristics which permit of their classification; but the expert diagnostician, as his observation and experience extend, will grow to view diseases less as entities and more as general combinations of events. Consequently, the science of

diagnosis, even though admittedly dependent on the evolution of knowledge, experience and clinical acumen, becomes efficient only so far as the physician grasps the true significance of, not one, but all the facts he is able to ascertain.

It is a matter for genuine satisfaction that so much progress has been made in the direction of greater accuracy in diagnosis. Chemistry and microscopy have greatly amplified the physicians' field of observation and investigation, with the result that deviations from the normal are more promptly recognized today than ever before.

Unquestionably the general practitioner has gained the most in the forward march of scientific medicine, and with comparatively simple equipment he can himself pursue nearly if not quite all the examinations essential for the establishment of positive diagnoses. Within the scope of his work will come urinalysis, blood counts and blood examinations, simple analyses of stomach contents and feces, bacteriologic examination of sputum and discharges,—and so on. The essentials for these examinations are inexpensive and the principal requirement is facility in the necessary technic.

It is fascinating work from the beginning, and tends to cultivate habits of precision and close observation. The physician who has his own working laboratory, however humble it may be, soon develops a self reliance that forms one of his most valuable assets, and from a mere routine practitioner of medicine he rapidly becomes a scientific, painstaking physician. The expenditure in time and money may be small, but the returns in accuracy, self-confidence and satisfactory results are very large.

If possible the general practitioner's laboratory should be a small room—say 10 by 12 feet. If this is not available, a closet or a corner of the consultation office may be utilized. There should be a fair sized table with a glass top for microscopic examinations, and near at hand several shelves for bottles, glassware and so on. A wash basin with running water is desirable. The microscope is one of the first essentials and it should be a good one, with a $\frac{2}{3}$, $-\frac{1}{2}$ and a 1-12 oil immersion objective and a movable stage. A little experience will give thorough facility in its use. It will not be necessary to enumerate the essential chemicals, stains, etc., for these with all necessary information as to solutions and methods of use, can be obtained from any of the reliable text books on pathology.

As a result of his examination the physician will obtain certain facts, all of which he will have to carefully consider, individually and collectively. Sound judgment, however, is very necessary in placing a proper value on each of these, for it is easy to exalt in any particular case symptoms that may be prominent though inconsequential, and at the same time minimize those of less prominence but of really greater importance. The most successful diagnostician, therefore, will be he who takes the most rational view of the data he gleans from his special examinations, and accurately estimates their importance in their comparative relation with the other details presented by each individual patient. These details of course comprehend age, sex, heredity, environment, personal habits, psychical condition and so on. In plain language, every day common sense is nowhere more useful than in the diagnosis of disease. The keener the diagnostician to

study his patient, and make proper allowance for individual conditions, the more accurate value can he place on presenting symptoms, and thus arrive at conclusions justifiable and correct. Finally, all of the foregoing, since diagnosis is but the prelude to treatment, leads up to the classical deduction that remedial measures to be effective must be directed to patients rather than to diseases.

The physical injury of midshipmen at Annapolis has been reported in the press and there is considerable surprise that a method of training supposed to be perfect should render them less able to do duty than when they entered the institution. Perhaps it is the aftermath of the strenuousness which has been injected into all the services, and if so, the public should be informed. Cadets are immature boys who must not be put to any strains either physical or mental, but it is quite evident that they have been unscientifically managed. If the medical officers have been party to it, there is need of enlightenment on the hygiene of childhood, but if their recommendations have been ignored by ignorant laymen, a change in the system is imperative—a change whereby an expert's opinions cannot be ignored. In either case it is a matter for public opinion to make its impress upon Congress to correct the evils alleged to exist. The country's safety is becoming more and more based upon an efficient navy in both the Atlantic and Pacific oceans, and we cannot tolerate anything which will injure the officer in the making. There has long been an opinion that boys selected with such care should produce many great men, whereas few are ever heard of. Something's wrong to stifle such ability, or perhaps examinations testing memory alone exclude the really good stuff and pass the parrots.

ORIGINAL ARTICLES.

THE PHYSIOLOGICAL ACTION OF DIURETICS AND THEIR COM- PARATIVE VALUE.

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Before beginning the discussions of the therapeutic value of Diuretics, it is well to have a definite understanding as to the manner in which the kidneys probably perform their functions.

There seem to be recognized two general theories, regarding the methods by which the renal organs perform their functions. First, the theory promulgated by Ludwig and his disciples, is described as a simple filtration and diffusion process, through the walls of the blood vessels constituting the malpighian tufts. In this theory the epithelial cells lining the uriniferous tubules are excluded from the excretory function, but absorbs water thus concentrating the urine. The second, or that of Bowmann and his followers, especially Heidenhain, asserts that the water and salts only, are filtered through the walls of the blood vessels constituting the glomeruli, while the catabolic bodies found in the urine are eliminated from the blood and enter the urine as the result of a secretory power possessed by the epithelial cells lining the convoluted tubules. The latter or Bowmann's theory is the more correct of the two. But Bowmann's requires enlargement to meet all the known facts. It requires in addition to the selective secretory action, actual chemical activity in the cell protoplasm, which may be described as follows:

The protoplasm of the epithelial cells lining the uriniferous tubules takes up from the blood, together with the oxygen the complex antecedent protein compounds, out of which the more simple normal catabolic bodies found in the urine are produced. In other words there is an oxidation reduction process constantly going on in the protoplasm of the renal cells. This transformation is best illustrated in connection with the formation of uric acid out of the proteid molecule. Uric acid is never found in the blood, it is seen occasionally in its crystalline form in the protoplasm of the renal cells, and it is always present in the urine. These facts can be explained in one way only; that the proteid antecedent to uric acid and oxygen is always in the blood, that it with oxygen is drawn into the protoplasm of the renal cells, within which cells oxidation reduction of the uric acid antecedent takes place, reducing the proteid molecule or uric acid forerunner into the well known nitrogen-bearing catabolic substances of which uric acid is one that is always present in the urine. The uric acid as found in the urine normally, is in combination with an alkali, forming a urate but when overproduced it is free, often being held in solution by various substances. By this same process of oxidation-reduction that produces uric acid and which is finally completed in the renal cells, all the other nitrogen bearing catabolins found in the urine are produced, both normally and abnormally. The carbon dioxide generated at the same time, owing to the strong affinity that alkaline fluids have for this gas, passes back into the blood stream to form a carbonate in the blood which is finally eliminated through the action of the respiratory

organs. The water generated at the same time is discharged directly into the lumen of the uriniferous tubule to be added to that filtered through the walls of the glomeruli.

The glucose molecule which in the normal state of the system is completely oxidized into carbon-dioxide and water, in some pathological conditions is imperfectly metabolized. Then its antecedent isomer is isomerically transformed within the protoplasm of the renal cells and discharged into the lumen of the uriniferous tubules in a form that can be recognized in this fluid as glucose. On the other hand it is now a well established fact that a large part of the recognizable glucose compounds found in the urine are a direct product of incomplete oxidation reduction of the proteid molecule in the protoplasm of the renal cells. The same may be said regarding the fats. As a rule, however, the fats are completely oxidized, but fat is found occasionally in the urine, coming like glucose, from imperfect oxidation reduction of the proteid molecule. Therefore, we are justified in the assertion that the true function of the renal organs is a very complex chemico-physiological process and one which is fourfold in nature. It can be summed up under four headings. First, simple filtration as applied to water and the salts; second, selective secretion; third, oxidation-reduction as applied to all the food or medicinal substances introduced into the system except the inorganic class; and fourth, continued absorption of water as the urine discredits in the tubules.

As the passage of solutions through animal membranes depends to a great extent upon the pressure exerted, the rapidity and perfection with which the urine is

excreted and its amount, will naturally vary with the blood pressure in the glomeruli and the speed and tension of the blood in the vessels between the tubules; consequently, the greater the pressure in the vessels, the greater will be the excretion, and vice versa, that is within limits that are normal.

The pressure in the vessels of the glomeruli may be increased:

1. By any increase in the force and frequency of the heart's action.
2. By contraction of the arterioles at large or in areas other than those of the kidneys.
3. By relaxation of the renal arterioles, either alone or with contraction of other areas.

Here it should be noted that as the general arteriole arcade contracts, the abdominal or splanchnic arcade tends to expand and vice versa. Thus establishing a harmonious balance between the two systems of vessels.

The pressure in the vessels in the malpighian tufts may be diminished:

1. By any diminution in the force and frequency of the heart beats.
2. By dilating the arterioles at large or in areas other than those of the kidneys.
3. By contraction of the renal arterioles, either alone or with relaxation of other areas.

The filtration function of the glomeruli is comparatively simple, being immediately under the control of the vaso-motor system. Division of the spinal cord below the medulla greatly diminishes the flow of urine. The explanation is that large vascular areas are cut off from their communication with the medullary vaso-motor center, which associated with shock to the spinal cord, produces a great fall in the general blood pressure.

With relaxation of the renal artery an augmented flow of urine would be expected, but the great fall in the general blood-pressure completely overbalances the effect upon the renal artery, and hence the volumetric pressure within the vessels of the glomeruli is practically nullified. Stimulating the spinal cord below the medulla affects the cord in an opposite manner from division, but produces the same effect in reference to the quantity of urine excreted. This is due to the renal artery becoming so firmly contracted that the generally increased blood-pressure is overbalanced, the artery being, as it were, ligated, and hence the volumetric pressure within the vessels of the glomeruli is greatly diminished or almost abolished. Therefore, opposite effects upon the cord produces precisely the same action upon the glomeruli.

Section of the renal nerve produces relaxation of the renal artery, increased volumetric pressure in the capillaries of the glomeruli, and an increased flow of urine. This effect is especially pronounced when there is any obstruction to the exit of blood through the renal veins, as occurs in some pathological conditions of the renal glands. Section of the spinal cord, after division of the renal nerve, arrests the polyuria by increasing the general vascular capacity outside the kidney, thus reducing general blood-pressure, and in this way again establishing, as it were, a normal blood-pressure in the vessels of the glomeruli.

Stimulation of the spinal cord, after division of the renal nerve, still further increases the flow of urine by diminishing the general vascular capacity outside the kidney, thus increasing the volumetric blood-pressure in the glomeruli.

Section of the splanchnic nerve, by which the kidney receives its principal nerve supply, increases the flow of urine by relaxing the renal artery, but not to so great a degree as division of the renal nerve. This is because the splanchnic nerve is distributed to the whole splanchnic arcade of vessels which become dilated as well as those within the glomeruli; hence the blood-pressure brought to bear upon the glomeruli does not rise so high. Stimulating the splanchnic nerve contracts the renal artery and arrests the flow of urine.

From these observations it is quite clear that the quantity of water and salts discharged from the kidney is governed to a large extent, if not wholly, by the vasomotor system.

The function of the epithelial cells, on the other hand, as we have already seen, is a much more complex process. While nerve endings have not been traced directly into the protoplasmic structure of the epithelial cells, they are distributed to and do control in a large measure the expansion and contraction of the secondary arterial plexus of vessels or those lying between the tubules, in consequence of which action of the arteries the capillaries between the tubules are made to expand and contract, as well as those in the glomeruli. In this manner action upon the primary plexus within the glomeruli, and upon the secondary capillary plexus located between the tubules controls the circulation in both these vascular areas. This augmentation or depression of the circulatory activity within the vessels between the tubules, secondarily increases or decreases the chemico-physiological activity of the epithelial cells.

In this manner the intertubular vessels

by expanding and contracting force more or less material out of the blood into the epithelial cells abutting against the vascular wall and in which cells final metabolism into the waste products found in the urine is completed.

With this knowledge of the functions of the renal glands at our command, we are in a position to analyze the etiological factors entering into the production of anuria and polyuria. We are also in possession of definite data regarding the pathological conditions to be modified or removed by our therapeutic agents. We can analyze, classify and compare the relative value of diuretics, when accurately informed as to the causes and pathological conditions. We now find that many diverse conditions may cause an increase or decrease in the elimination of urine both as regards quantity or quality. That directly opposite conditions can produce similar results. Therefore, great skill is required to diagnosticate accurately the cause and effect, also how to choose the most effective remedial agent.

As for instance anuria may be due to the action of a toxine generated in, and absorbed into the system, from the alimentary canal; or the toxine may have been generated within the system; in both instances it may be a toxine that is profoundly depressing to the nerve centers, thus acting upon renal excretion through the nervous system in a manner similar to that which occurs after division of the cord below the medulla. On the other hand, it may be one that is overstimulating the same centers. In one case the toxine is drawing the blood away from the renal organs, by overexpansion of the general vascular arcade; while in another the toxine, by overcontracting the vascular system and especially if the splanchnic arcade is affected, is shut-

ting off the blood supply to the kidney. Thus absolutely different toxines produce like results by affecting the circulation in opposite directions and many need different treatment. In other instances the elimination of the toxines by the kidneys may cause a direct peripheral irritation to the nerve endings distributed to the vessels between the tubules, and thus cause overexpansion and passive congestion of the interlobular vessels. On the other hand there may be overcontraction of the same set of vessels. Both conditions may interfere with the normal and uniform flow of proteid substances together with oxygen into the substance of the renal cell protoplasm. When either of these conditions is produced, there is of necessity diminished oxidation reduction in the renal cells and decrease in the perfection and amount of catabolins found in the urine. If, then, there is an impeded flow through both capillaries in the glomeruli and intertubular plexus, there will be diminution of both water and solids in the urine. Overexpansion of the afferent artery in the glomeruli usually causes diminished flow of blood through the intertubular set of vessels. This causes a large outpouring of water through the glomeruli or a polyuria and may be followed by diminution in the volume of blood in the intertubular system to such an extent that oxidation reduction in the epithelial cells is diminished and hence a low nitrogen output follows.

At other times the anuria is due to the condition known as surgical shock, when results similar to those observed after division of the cord below the medulla are the necessary sequence. The great vascular arcade is expanded. At times both the general and splanchnic arcades expand and very little blood reaches the kidneys;

hence in some cases the anuria becomes an actual suppression.

The various lesions of the kidney classed under the common term "Bright's disease" disturb the renal functions along the same general lines, decreasing or arresting the simple filtration process, the selective secretory function and the oxidation reduction going on within the cells, usually decreasing both functions. In some instances the water is increased while the solids are decreased.

The classification of diuretics to be scientific must be based upon the power of the medicament to remove the cause and modify the abnormal state.

When viewed in the light of our present knowledge, some remedies which are the most valuable in the management of anuria, in a strict interpretation, produce no direct or primary diuretic effect upon the renal glands, but act secondarily by removing the cause. This is best illustrated by the great power of calomel and other mercurial preparations, either alone or in combination, to augment renal activity in the toxic forms of anuria, which are due to putrefactive changes in the alimentary canal and toxic infection therefrom.

The result of the mercurials may be simple removal of the toxine from the alimentary canal, after which the system is enabled to act normally; or they may stimulate the liver to unusual activity and thus augment elimination through the hepatic gland of the poison already within the blood. This latter action reduces the overwork imposed upon the renal glands. If after these results are accomplished there still remains an overexpansion or contraction of the blood vessels, thus keeping the normal volume of blood away from the kidneys, other remedies must be administered

which will overcome this abnormal vascular condition. The most simple and effective remedy is the free administration of water alone. By compelling the patient to drink largely of water the blood vessels are expanded and become full and with the removal of the causative factors the walls of the blood vessels begin to contract normally. Following this overfilling of the blood vessels with water, larger volumes of blood are forced into the glomeruli, soon to such an extent that it cannot escape from the efferent vessel as rapidly as it enters through the afferent artery. Now, the water and salts flow rapidly into the tubules, the flow of blood becomes larger in volume and more active in the intertubular set of blood vessels. This excites increased secretion and oxidation reduction in the epithelial cells lining the convoluted tubules. Thus, by simply changing the vascular condition, both the quantity and composition of the urine are improved. In anuria in connection with surgical cases, especially in connection with genito-urinary surgery, the administration continuously of large draughts of water, as advocated by Prof. Eugene Fuller, may be all that is required to prevent and overcome inaction of the renal glands. In other instances it may require something more than water alone to bring about contraction of the general vascular arcade, and excite a normal activity in the greatly depressed cerebro-spinal and vaso-motor centers. This is especially true in connection with the so-called medical cases. The three remedial agents which are most effective under these conditions in causing an increased heart action, contraction of the blood vessels and to excite the vaso-motor centers to increased activity are: Strychnine, caffeine and digitalis and their various derivatives

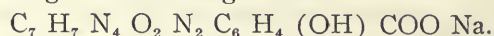
and preparations. Digitalis has the greatest power to augment muscular contraction of the heart and contract the blood vessels, while strychnine and caffeine are the more powerful stimulants to the vaso-motor centers. In still other instances, excitation of the nerve centers and tightening up of the general vascular arcade do not seem to be sufficient to excite the degenerated or sluggish protoplasmic masses constituting the excretory cells of the renal tubules into secretory and oxidation reduction activity.

Under these circumstances various volatile oils or irritating inorganic substances are used, such as the potassium salts. The former being foreign bodies and irritating in nature will excite principally the so-called selective secretory function; while the latter, by exciting general body oxidation, impose upon the renal cells a larger amount of work which tends, in a somewhat normal but reflex manner, to increase the activity of all protoplasmic masses; hence, increased activity on the part of the renal cells. Neither the oils nor inorganic salts are as much used as formerly. This is especially true where the epithelial cells have already become degenerated, because they tend to augment the work imposed upon renal cells, while our chief aim is to decrease their work and augment their nutrition.

There is one remedy which has not gained admission to our official pharmacopia; nevertheless, it has been extensively and successfully used for many years; it has the property of stimulating the cerebrospinal and vaso-motor centers. It augments the heart action and tends to tighten up to a slight extent the general vascular arcade. It also appears to stimulate the epithelial cells of the renal tubules to increased secretory and oxidation reduction

activity to the highest degree, with the least damage possible to these delicate structures, so much so that it can be used quite freely even though the cells are in a somewhat damaged condition, which is not true of most inorganic substances that have been advocated as diuretics.

This substance is obtained by mixing aqueous solutions of equal molecules of sodium theobromin and sodium salicylate and evaporating to dryness; after which a definite compound appears to be formed, having the following formula:



Taking the above formula in its compact form, by being oxidized or reduced in the epithelial cells of the renal glands, thus $C_{14} H_{12} N_4 Na_2 O_5 + 34 (O) = 2 (CH_4 N_2 O) + Na_2 CO_3 + 11 (CO_2) + 2 (H_2O)$, this chemical compound by its oxidation reduction excites the renal cells to increased secretory and oxidation reduction of the proteid molecule and hence becomes a positive diuretic. The same may be said of digitalis and all foreign or medicinal substances that are capable of being oxidized at this point. This compound, diuretin, contains theoretically 49.7 per cent. of theobromin and 38.1 per cent. of salicylic acid. It appears to retain the common action of the caffeine salts upon the nerve centers, and thereby stimulates the heart action and augments general vascular tension, thus increasing the circulatory activity in the kidneys. It also possesses the property of stimulating renal epithelial cells into increased secretory and oxidation reduction activity. This latter point, or just where the oxidation reduction is effected, is a very difficult one to determine absolutely in connection with all drugs. There can be no question, however, as to the fact that a generally increased circulatory activity

throughout the whole kidney will change an abnormal condition to one that more nearly approaches the normal standard. This accomplished, the output of urine must change in composition from an abnormal to one that more nearly corresponds to the normal standard, both as regards quantity and composition. This law holds true for all remedial agents producing diuretic results. With all this class it seems highly probable that their apparent power intrinsically to excite the epithelial cells to increased activity does not exist, except in so far as they undergo oxidation reduction in the renal epithelial cells in conjunction with an augmented circulatory activity between the tubules. This naturally results in improved nutritive activity in the cells which, in turn, must be followed by more complete secretory and oxidation reduction action in the cells of the convoluted tubules of the kidneys. In this particular class of cases there is no single preparation that so effectually stimulates the nerve centers, augments the muscular power of the heart, and increases vascular tension as does diuretin. The great value of this preparation, however, rests upon the fact that all this is accomplished with the least possible intrinsic structural damage. This is a great advantage when the renal epithelium is in a degenerating condition.

In those cases in which there is general venous engorgement with marked swelling of the epithelial cells of the uriniferous tubules, and as a sequence positive compression obstruction of the intertubular plexus of blood vessels, digitalis is, *par excellence*, the remedial agent, because it has greater power to overcome the mechanical obstruction to the circulation than any other drug or compound. It tends, as it were, to

lift a larger volume of blood over from the venous to the arterial side of the circulatory system. The digitalis increases, positively, the force of the cardiac muscular contraction; it increases the tension of the veins as well as of the arteries, and thereby expands or increases the volumetric pressure within the splanchnic arcade, including the renal arteries and the capillary vessels within the glomeruli. Now, if there is an obstruction to the free exit of blood from the efferent vessel of the glomeruli, no matter where the obstruction exists, one of *three* things must occur; first there is arrest of the renal circulation and absolute suspension of renal function. Second, if this does not occur, the walls of the blood vessels in the glomeruli will rupture and blood will be discharged into the uriniferous tubules, and third or, what more frequently occurs—as nature always takes the simplest method for relief—the water of the blood is discharged in large volumes from the vessels of the glomeruli into the lumen of the tubules, which results in a great increase in the watery and saline ingredients only of the urine. Withdrawal of large volumes of water at this point in the vascular system of the renal glands, greatly relieves the pressure in the secondary or intertubular plexus of vessels. This is followed by a more nearly normal flow of blood through this secondary system and there naturally follow greater nutritive activity on the part of the renal cells and greater secretory and oxidation reduction activity on the part of the renal cells. Now, the nitrogen bearing catabolins are increased in amount and in perfection of formation, so that, under these circumstances, the ultimate results of the action of digitalis is to increase both quantity and composition.

On the other hand, if there is no obstruction to the exit of blood from the kidney, digitalis simply drives the blood more rapidly through the vessels of the renal glands and diminishes both the water and solids eliminated by the renal organs. It should also be remembered that if digitalis is pushed to the extreme limit of dosage, it will, if there is no great obstruction to the exit of blood from the kidney, first decrease the water and then the urea, which is soon followed by an overproduction of uric acid and finally by complete cessation of all excretory function. This is due to the fact that in large doses the splanchnic arcade becomes unduly contracted and finally shuts the blood out of the kidney. Therefore, neither digitalis nor any other drug can be indiscriminately used without the risk of producing more damage than good.

When we come to the class of anurias due to extremely high tension of the blood vessels, and especially so in connection with those of the splanchnic arcade and renal arteries, the above list of medicinal agents must be discarded. In these cases the remedial agents that tend to soften and expand the vascular walls must be employed. If by these agents, we are able to lower the tensions in the splanchnic arcade and especially that of the renal arteries and the afferent vessel of the glomeruli, a more nearly normal condition, so far as the renal circulation is concerned, can be established between the vessels of the glomeruli and the intertubular plexus. This accomplished, the quantity of water eliminated through the kidneys is often lessened, while the nitrogen output is considerably augmented. In this manner a true diuretic effect is produced, a polyuria overcome and the

epithelial cells are made to perform more work, and more perfectly.

The remedy which produces this result most effectively is the nitrite of soda. This preparation, like diuretin, is best prescribed in tablet form. By using sodium nitrite continuously in from one to two grain doses every three or four hours, the vessels, in many instances, can be made to become soft and to expand until a very nearly normal tension is induced. Having reached this point, the volume of blood supplied to the glomeruli will be normal and the quantity of water will rise or fall in accordance with the preexisting condition of water eliminated; but in both instances there will be an increase in the perfection of formation and in the amount of nitrogenous waste eliminated. If at the same time the cerebrospinal and vaso-motor centers are overstimulated from any cause, the irritation should be removed, or such remedies used as will tend to overcome the overstimulation. This accomplished, the most satisfactory diuretic action is produced by remedies which are not classed as diuretics.

Failure to recognize the different chemico-pathological conditions and the method of their development, together with the selection of unsuitable remedies, often result in failure and bring discredit upon scientific therapeutics. On the other hand, if the conditions are correctly interpreted and a suitable remedy selected, the results are certain. In this connection, however, it must always be remembered that we are constantly meeting cases and conditions in which the power of the animal organism to respond successfully to either normal or abnormal stimulation has been irretrievably lost. In

such cases, no matter how perfect the analysis may have been or how well directed the plan of treatment, all is failure, and death inevitably ensues.

CONDITIONS OF MAL-ALIGNMENT OF THE CERVICAL VERTEBRAE: AND THEIR OCULAR SIGNIF- ICANCE.¹

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This title was chosen to express the idea of anatomic lesions—of the causes and consequences of palpable deviations from the normal articular line of head and spinal column, of one or more of the vertebrae of the neck, in contradistinction to major traumatic dislocations causing compression of the spinal cord, and to such changes in relation as are due to pathologic processes like rachitis, osteo-tuberculosis, osteo-arthritis, etc.

This is applied anatomy, and as the time limit will not permit a review of the neck, it will be necessary to assume familiarity with the general and special characteristics of the cervical vertebrae, with their articulations, and with the anatomy, physiology and relation to them and to each other of the vessels and nerves and other structures dependent upon them in some degree for support, protection and functional integrity.

Eisendrath (Clinical Anatomy) says, "From a clinical standpoint the spine may be considered as an elastic stick or staff which is composed of a number of separate parts, the vertebrae."

It is necessary to recognize that these

separate parts are connected by separate joints subject to the same influences as are other movable joints, and are under the same physical and physiologic laws.

"As usually described the movements of the spine are:

- (a) Flexion or bending of the spine.
- (b) Extension or bending backward of the spine.
- (c) Lateral flexion or bending either to the right or left.
- (d) Rotation or revolving the spine upon its vertical axis."—*Eisendrath*.

This limited conception of the movements of the spine accounts for the typical descriptions. "The vertebrae are so firmly bound together through the medium of the intervertebral disks and ligaments that they form an elastic whole or entity, and may be so considered, clinically."—*Eisendrath*.

Unfortunately, they are usually only so considered, which is doubtless responsible for the absurd and thoughtless notion that "the vertebrae are so beautifully designed, perfectly constructed and so firmly bound together that no one vertebra can get out of place"; as if they are the only ones immune to the ills that joints are heir to.

The movements of the cervical spine, at least, are far more complex than the classification teaches, for either lateral flexion or rotation or both can be combined with either flexion or extension, and in addition a slight amount of lateral sliding motion is allowed.

The muscles are designed and attached to each vertebra so as to enable it to contribute its proportionate share to any of the movements of the neck as a whole, and this arrangement guarantees it a certain amount of individual mobility; which is needed for the execution of the more complicated motions of the head and neck.

¹Read before the Colorado State Medical Society, Sept. 10, 1908.

It is, of course, the intent of Nature that all variations of possible vertebral mobility be executed with ease, grace and power, and that each vertebra be able to return in safety to alignment when at rest.

This is practically true of the well built, well trained and competent necks of the athlete, the gymnast and the contortionist, and usually of the good necks of those other lucky persons, who, without special training, have the blessed endowment of good physiques with the peace of uncomplaining bodies and reflexless heads.

But in every day life we see few well trained or competent necks; few that are not weak and relaxed, or stiff and painful long before the limit of normal mobility is reached; few whose sympathetic centers are not subject to complaints from disturbed and diseased structures elsewhere; few that can resist the reflexes from such sympathetic impulses, which, as well as a local irritation or an indirect force, can excite muscular contractions capable of producing and maintaining a scoliosis, and of pulling or crowding and holding one or more vertebrae out of normal alignments.

Whatever the first cause or causes of these muscular contractions may be, the state of contraction in itself is a cause of compression interference with the vessels and nerves in relation.

If the contractions are strong enough and continue long enough to produce a primary cervical curve of scoliosis, the interference will be greater, and going beyond Nature's kindly tolerance,—her power of resistance,—will be resented.

Nature's resentments are expressed in "nervousness," "irritability," "depression," "aches," "pains," "neuroses," "hysteria," vaso-motor imbalances and "diseases."

These are the languages in which nerves

speak when they are overworked, under-rested, worried, impinged upon, injured, starved or poisoned; and whether the cause be mechanical, chemical, thermal or vital.

No part or organ is exempt from these resentments. According to Hulett's law, "That organ will be involved reflexly which is in the most irritable condition"; i. e. which for any reason has the least resistance.

That part or organ will have least resistance whose nerve and blood supply is most handicapped by interference of any kind, anywhere from origin to peripheral distribution.

Wherever the interference, the resentment will be voiced at the periphery.

Conditions of mal-alignment of the cervical vertebrae, therefore, may be the consequence of a great variety of causes, and because contractions of the neck muscles impinge upon and compress the vascular and nerve supply of a great many parts and organs, they can and do, in turn, cause many adverse systemic conditions.

The following cases illustrate a few of the many acute and chronic causes of muscular contractions and contractures producing mal-alignments and consequences.

CASE I. Miss T., June 3, '08. Fifth cervical in postero-lateral displacement by rotation to the right; locked by tightly contracted, very sensitive muscles.

(All muscles in tonic contraction are painful to touch, and all vertebrae out of alignment will have sensitive spinous and articular processes; the worse the contraction the more painful the manipulation; the farther "out" of alignment the vertebra, the more sensitive its processes and vice versa.) In describing muscular conditions I have chosen to call a muscle "contractured," only when it is actually shortened,—by Nature's plan of always taking up unused slack. During functional contraction of the muscles of the

neck, the cervical vertebrae are doubtless often in "mal-alignment," but if under voluntary control, functional relaxation restores them to alignment at rest. If perchance voluntary relaxation ceases, the functional contraction becomes continuous and the vertebra or vertebrae are locked out. I have preferred to call such muscles in "tonic contraction," when shortening is only apparent and manipulation readily relaxes them, restores them to normal voluntary control and permits the resumption of the usual vertebral relation.

Patient was referred by Dr. M. Jean Gale, oculist, who had excluded eyestrain, for

(a) Severe and obstinate occipital-vertical-frontal headache beginning at back of neck and recurring monthly; (voice of suboccipital and 1st Div. of 5th cranial in sympathy with cervical sympathetic.)

(b) Nausea. (Phrenic N. impinged by contracted muscles and drawn by displaced 5th.) and

(c) "Rheumatism" of shoulders, right especially. (Voice of descending branches of cervical plexus, suprascapular N. and the Circumflex N.)

Cause, "overwork," consisting of daily long continued massaging, shampooing and brushing scalps (with right hand, chiefly).

Recurrence every few weeks, accounted for by the "last straw"—menstruation, precipitating an acute intolerable contraction on the basis of a fairly well tolerated chronic irritation.

One treatment relaxed the muscles, reduced the 5th, relieved the headache and nausea immediately, and improved the "rheumatism." This was not a toxic "sick headache."

CASE II. Mrs. H. H. Long thin neck, feeble musculature. Fifth in right lateral subluxation, 3rd, 4th and 5th very painful.

Mrs. H. had displaced both ossa innominata by horseback riding. Sympathetic impulses from the consequent pelvic disturbances, jarring of the spine and posture in bed were the chief exciting causes of the muscular contractions which with the resulting displacement of the 5th caused intense neck and head ache and subsequent development of constant distress through both shoulders, right side worse. She "could not raise her arms even to play solitaire"

without exciting waves of aching pain often to the finger tips.

The pain varied with and corresponded to the amount of contraction and the degree of displacement, and was absolutely relieved when the muscles were manually relaxed and the 4th restored to alignment. Her arm-shoulder condition had been diagnosed "neuritis," and she had had several weeks of strenuous treatment for "rheumatism."

CASE III. Miss M. E., tourist, complained of a painful condition, varying from a hot boring pain in a depression where the spine of the 6th cervical should have been to a steady, disabling ache extending from the middle of the neck over the left shoulder and down to the elbow, according to the amount of deltoid action. It was the consequence of muscular contractions which had twisted the 6th around to the right and held it there. The cause was the strain of carrying for hours daily a kodak or satchel under her left arm.

She had been ordered liniments for neuralgia, neuritis and rheumatism. The successful treatment removed the cause, stretched the contracted muscles and replaced the 6th cervical.

CASE IV. Billy W. Slept with a draft on side of neck. Next morning had wry neck. One manual treatment relaxed the contracted muscles, returned the 4th cervical to alignment, improving the condition about 75%. A second treatment 12 hours later, and the neck was practically normal. Gerdes has reported a series of cases of torticollis, "curvature of the vertebrae of the neck caused by abnormally shortened scalenus anticus," treated by section of that muscle and subsequent stretching. Surely operation is not justifiable in wry neck until scientific manual therapy has proven futile.

CASE V. J. W. B., while holding with his hands, "butted" with his forehead, forcing the occiput back on the atlas where it locked, leaving a wide space between it and the spine of the axis.

The immediate consequence was a steady piercing pain from occiput to forehead, great pallor, nausea and faintness, all of which were as quickly relieved by rotations restoring atlas and skull to normal relations.

Occupation neurosis, neuritis, rheumatism, neuralgia, hysteria and traumatic hysteria are common diagnoses for the consequences of similar unrecognized neck lesions. They are the medical names for the tunes in which Nature voices her resentments.

Spoken with the professional air of diagnostic finality they serve to bar any search for and treatment of a possible anatomical source of the symptom syndrome.

Expensive medicines are prescribed, long and costly vacations are ordered, rest cures, Spanish flies, actual cautery and a score of other ingenious treatments are devised; but if something does not happen to relax the contracted muscles and sufficiently release the locked out vertebrae, the patient need not expect immunity from surgical interference and the brand of the "neurotic nuisance."

These cases are comparatively common and they are the kind in which the scorned osteopath scores brilliant triumphs after the old school physician has failed.

Equally or more common, equally neglected and of even greater significance, are the mal-alignments of the cervical vertebrae due to the muscular contractions that maintain the "persistent head tilting" of uncorrected astigmatism and muscular asthenopia.

Dr. Geo. M. Gould says of mal-position of the head, torticollis, canted or tilted head with resultant ill-health, spinal curvature, etc. due to eyestrain.

"The number of these canted heads is astonishing. The number of those with secondary and unsuspected abnormally curved spines is not less remarkable. So certain were they (parents, physicians etc.) that it (spinal abnormalism) did not exist, that an examination was with dif-

ficulty permitted, but when permitted it was readily perceived.

"The cause and mechanism of habitual mal-position of the head has now become so clear to me that I am able to foretell with considerable accuracy what will be the axis of the dominant eye."

My experience with necks, which I examine as one makes any routine examination, has convinced me of the very definite relationship between eyestrain and mal-alignments of the cervical vertebrae.

I believe it to be true that patients whose cervical vertebrae are in alignment and not sensitive, will be found to have practically emmetropic eyes and muscular equilibrium; or, if there be ametropia or muscular imbalance, it is negligible at this time, for the patient's resistance is, at this time, sufficient to tolerate the consequent nerve waste without appreciable detriment.

On the other hand, patients having cervical vertebrae in fair alignment or merely scoliotic, with abnormally tender processes, especially the articular of the axis and transverse of the atlas, will be found to have a present and potent eyestrain producing reflex disturbances in the least resistant organs.

Also, patients having one or more of the cervical vertebrae actually locked out of alignment, unless there be some acute or mechanical cause, as in the first series of cases, will be found to have a more severe eyestrain,—ametropia, muscular imbalance or both, causing grave functional disturbances and even organic lesions in the least resistant organs. Which are the least resistant will be determined as well as indicated by the particular vertebral displacement present.

These latter might well be termed eyestrain cases of the third and fourth classes.

The vicious constitutional effects of eye-strain seem to me to be produced in two ways; by depriving other organs of their due share of nerve force in order to appropriate to the uses of the eyes more than their normal quota; and second, by direct cerebral irritation which reflexes most markedly in the cervical and upper thoracic regions, producing sympathetic impulses through the cervical sympathetic to various parts and organs, and producing also neck conditions which in turn impress the blood and nerve supply to dependent organs.

It is a poor telephone wire that will not work both ways, and our nerve telephone system is nearly perfect, but it is yet to be proven that what might be termed accidental mal-alignments of the cervical vertebrae, similar to those of the first series reported, can give rise to astigmatism; or that manual therapy of the neck can change or cure an existing astigmatism, even though it does increase visual acuity.

The reciprocal relations between ocular muscular imbalance and cervical mal-alignment seem to be more intimate.

Manual treatment of the neck, as it logically should, has a marked influence upon ocular muscular imbalance, since it can correct the vaso-motor imbalances always present in these cases, through interferences with the superior cervical ganglion of the sympathetic, which are anatomically inevitable.

When the central irritation has been removed by the proper glasses, in children only may one expect the spontaneous relief of the neck condition. The older the patient and the stronger the reflexes, i. e., the worse the contractures and mal-alignments, the less apt they are to resolve without manual help; and later, in adult

life, after both causes and consequences have long continued, it may not be expected. In any case it is a foolish and needless waste of time and suffering to await the slower process of glasses only, for correction of neck conditions and the constitutional troubles dependent upon them.

In every case treated, only a few of which are here reported, manual correction of the neck conditions greatly modified the functional reflexes before the glasses had had time to wholly relieve the primary and chief source of the trouble.

Even after proper glasses are worn, the mal-alignments are often the line of least resistance, and their reproduction from other sources of irritation will reproduce through them the old reflexes.

The following cases will illustrate.

CASE VI. Miss K. 18. Atlas locked in right lateral subluxation by rotation and lateral sliding. Cause—head tilting of hyperopic astigmatism. Consequences; headaches of all kinds since earliest recollection; toxic "sick-headaches" twice or so a week in addition, digestive disturbances, anemia, acne, constipation, neuralgia of face, nervousness, irritability, "always delicate," once a retinal hemorrhage, blinding flashes of light and pain, and other vaso-motor imbalances.

Neck exceedingly sensitive; could produce headache at will by pressure in the proper place on same side of neck. On right articular process of axis pressure caused right temple headache, on left process a left temple ache. Pressure a little higher caused frontal headache on corresponding side, and on the transverse process of atlas pain in corresponding eye and brow.

The rotation manoeuvre which reduced the atlas to normal relations was accompanied by an instantaneous flash of pain and blindness in the right eye like that experienced when she had the retinal hemorrhage.

The headaches which had persisted af-

ter the eye strain was corrected disappeared immediately, to recur only when it once slipped out again. Minor aches occurred occasionally when the atlas, though not "out" was yet not "in" perfect alignment.

Refraction record. Case VI, by Dr. M. Jean Gale. Homatropin: Exophoria 10°.

R. R.E. + .25
L.E. + .25 Prism exercises.

CASE VII. Mrs. A. P., 50. Never well. Before puberty often insensible with sick headaches. None since birth of child. Always car sick and has many headaches. Digestion poor, worse when 23. Frequent pain at pit of stomach, and "dizzy, bloating, bilious spells" unless taking something daily for constipation.

Glasses since 15 years old. Divergent strabismus, R.E. Atlas to the left; axis to the right; 5th to the right. Correction of neck condition and change in lenses quite promptly effected great improvement.

Was wearing R.E. Plain
L.E. + 2.25 D.S. 3° Prism Base down.

Dr. W. A. Sedwick's R.
R.E. Plain
L.E. + .50 D. C. ax 180° (20/20)
B.E. + 2.75 D. S. For near work.

CASE VIII. Mrs. C. V. C., 42. Clerk. Referred by Dr. Gale for reflexes unrelieved by glasses. Always headaches. Sick headaches when a girl. "Nervous prostration." Wakes daily with pain beginning at back of neck and extending all over head. Worse during menstruation.

Neck condition extreme. Fat contracted muscles and ligaments jamming the vertebrae tight together. All very sensitive.

Atlas and axis fixed in subluxation by left lateral flexion and torsion to the right. 3d to the left and 4th to the right.

Posture in bed, overstrain at typewriter, drafts, excessive heat, crooked spectacle frame, etc.,—every untoward influence centered its mischief in the muscles of her neck.

After two treatments she awoke without headache for the first time in weeks. It was months before the contracted muscles were stretched enough, the irritability relieved so that she could keep her neck

relaxed during the manipulations. Owing to the changes in the articular surfaces it is not possible to completely restore the atlas and axis to alignment, but when they are fairly well "in" she has no headache, and when her head aches they will be found "out."

She was, of course, a pronounced head tilter, had had both external rectus muscles almost completely tenotomized.

Her eyes turn in to fix. She has hyperopia, astigmatism and considerable muscular imbalance.

Presbyopia 1°. Exophoria 15°. Refraction by Dr. Gale. Homatropin.

R.E. + I. = .50 ax 90°
L.E. + 1.50 = .50 ax 90°
R. B.E. + .50 = .50 ax 90° Distance
B.E. + 1.25 Near

CASE IX. Mrs. S. 25. Never strong, nervous, frequent headaches, sleepy, cries over nothing, backache, neckache, and general anemia.

5th cervical in right lateral displacement. Atlas and axis sensitive.

Cause; left hyperphoria. Corneal astigmatism B. E. Hyperopia. Homatropin, Dr. Gale.

R.E. + I. = .13 ax 90°
L.E. + I. = .13 ax 90°
R. R.E. + .13 ax 90° Prism 1/2° Base up.
L.E. + .13 ax 90° P. 1/2° Base down.

For constant use.

Manual relaxation of the tender contracted muscles and the restoration of the 5th relieved the reflexes, and the glasses removed the cause.

CASE X. Miss M. N., 24. Extreme nervousness, almost constant headaches beginning at back of neck, frequent fainting spells, anemia, constipation and dysmenorrhoea.

Atlas and axis held in oblique relation to occiput by rotation to the right. Head tilting marked. 5th crowded out to right. Left hyperphoria, corneal astigmatism B.E.

Homatropin; Dr. Gale.

R.E. + .75 ax 75° V 20/30
L.E. + I. ax 75° V 20/20
R. R.E. + .63 ax 75°
L.E. + .75 ax 75° Constant use.

When this patient has headache the 5th will be found "out;" she has none when the 5th is "in."

CASE XI. Miss A. S. Dressmaker. Slight and delicate. Complaints of great nervousness, indigestion, hyperchlorhydria, constipation, and very frequent headaches, worse during menstruation.

Left lateral flexion of neck, head tilted, chin to right. 3d cervical crowded far out to right.

Left hyperphoria, hyperopia and corneal astigmatism.

Homatropin: Dr. Gale.

R.E. + 1. ax 90°

L.E. + 1.50 ax 75°

R R.E. + 1. ax 90° .

L.E. + 1. ax 75°

When she has headaches the third (3d) is "out." When it is "in" she has none.

Discussion of cases presenting grave organic disease, with neck lesions,—mal-alignments—and errors of refraction must be deferred to a subsequent paper.

The next cases are types of what I have called mal-alignments of the fourth class;—each had severe eyestrain, mal-alignment of one or more cervical vertebrae maintained by contracted muscles, and actual disease in organs supplied by the vessels and nerves most affected by the lesions in the neck.

(A lesion is "any structural perversion which by pressure produces or maintains functional disorder."—Hulett).

CASE XII. Wm. M. C., 21. Was an electroplater in a watch factory in Illinois. Was sent to Colorado in the third stage of laryngeal, pulmonary and intestinal tuberculosis.

His neck vertebrae were irregularly placed, laterally and antero-posteriorly, and sensitive. Refraction, Dr. Sedwick.

R.E. + .75 D.S. = + .25 D.C. ax 90°

L.E. + .75 D.S. = + .25 D.C. ax 90°

Died 6 weeks after arrival.

CASE XIII. Miss I., 22. Telephone operator from Minnesota. Her neck presented a tender occipito-atloid joint, the 3d was crowded forward, buried out of touch at rest, the 4th was to the right and 5th to the left. The 2d, 3d, 9th, 10th and 11th thoracic were very sensitive. The 8th to 11th were jammed; the 2d, 3d and

4th lumbar were jammed and posterior, leaving a "break" between the 11th and 12th, and between the 12th and 1st lumbar.

Homatropin: Dr. Gale.

R.E. + .25 ax 90°

+ 1.00 = + 3.50 ax 105°

Esophoria 18° . Left hyperphoria 4° .

Left eye, which had been practically out of use, achieved with the correction vision 20/50.

Her direct and reflex resentments were expressed by insomnia, occasional headache, nasal catarrh, coated tongue, foul breath, not due to catarrh, brownish skin, general anemia and debility, dysmenorrhoea and right apex pulmonary tuberculosis.

An enormous improvement followed the first month's treatment. Subjectively her neck is comfortable,—objectively the 4th is not wholly in line, but not sensitive, comparatively; the nasal catarrh persists.

CASE XIV. Miss M. H., 25. An incessant reader in a comfortable home. Very round shouldered with a short, thin, stiff neck convex anteriorly as a whole,—compensating upper thoracic kyphosis,—non tubercular. Her axis and atlas were to the right, 4th to the left and 5th to the right. A head tilter with scoliosis,—to the right in the lumbar region, and with double posterior ilia ("anterior sacrum").

Refraction,—homatropin—Dr. Gale.

R.E. + .50 = + .25 ax 70°

L.E. + .50 = + .25 ax 115° Exophoria.

In spite of the fact that there was astigmatism and that the axes were not the same in both eyes, patient insisted that one oculist had ordered glasses for near work only.

In this case there was the direct theft of nervous force from the general fund for the use of uncorrected astigmatic eyes with muscular imbalance; contracted muscles and mal-aligned cervical and other vertebrae; and direct and indirect interference with the vessel and nerve supply of various organs.

The consequences of this combination of causes were expressed by this patient in severe and frequent headaches, disturbed nutrition, general anemia and debility, appendicitis, for which she was operated a year before,—one year old lumbar back-

aches and dysmenorrhoea, neurasthenia, and right apex pulmonary tuberculosis.

CASE XV. Miss K. B., 25. Was a clerk in the usual non-ventilated down town office.

Atlas and axis in oblique position by rotation to the right, 4th locked out far to the right. Otherwise neck mobile. Usual sensitive points on pressure which mark the neck reflexes of astigmatism. Patient is a pronounced head tilter with complex curves.

Refraction, homatropin.—Dr. Gale.

R.E. + .75 = + .75 ax 180°

L.E. + .75 = + .75 ax 180° V/20/20

This patient had almost constant neuralgic headaches beginning at the back of the neck, and passing over chiefly on the right side to the right eye. In Colorado for right apex pulmonary tuberculosis.

A curiously interesting condition in this case was that which, probably, once led to a suspicion of tuberculosis of the right kidney, a diagnosis which could not be substantiated and was withdrawn.

Patient complained of soreness, aching and pain "over the right kidney." On examination found the spinal muscles crowding together the lower thoracic to the 11th, and the upper lumbar with the 12th thoracic, leaving too wide a space between the 11th and 12th,—a "break." The 12th thoracic, and the 1st and 2d lumbar were a little "posterior." All of the muscles in the vicinity were sore to pressure but the storm center was the right 12th rib, throughout its length. It was exceedingly painful—"sore as a boil." There was no evidence of periostitis, or other inflammatory or other pathological condition. Pressure in the spinal groove opposite these vertebrae,—11th, 12th and 1st lumbar produced nausea.

The inter cause and consequence relations between such a condition and possible pathology in the parts supplied by the nerves involved in it are of interest inasmuch as the patient had been operated six months before for appendicitis.

This right rib condition appealed to me as the peripheral voice of the right phrenic impinged by the subluxated 4th cervical.

This view seemed to me to be corroborated when one day she complained the "left side of her back was acting just like the right, only not so bad," and I found,

to my surprise, that the 5th cervical vertebra was for the first time locked out to the left,—probably during my attempt at the previous treatment to force the 4th into line.

The interference with the superior and middle cervical ganglia of the sympathetic was expressed also by the development of "hay fever," which did not vanish, however, with the advent of frost and snow.

VACCINE THERAPY.¹

BY

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It is customary to divide acquired immunity into two types—passive and active. When we inject curative sera, we aim to produce passive immunity. When, on the other hand, we inject emulsions of dead bacteria, our purpose is to summon up an active immunity.

Another useful subdivision of immunity is that which divides it into the two kinds—humoral and cellular (or phagocytic). Bacterial emulsions produce the second of these two classes—phagocytic immunity. We express our conception of the achieved result by saying that they cause an acquired, active phagocytic immunity.

It was Metchnikoff who, in 1883, called attention to the ingestion of micro-organisms by the leucocytes, and emphasized the importance of this property in the combat against invading bacteria. He ascribed to the blood serum a subsidiary role—the stimulation of the leucocytes. Twenty years later, Wright expressed the opinion that the serum is of much greater importance than Metchnikoff had believed—that, indeed, without it there could be no phagocy-

¹Read before the Brooklyn Medical Society, Nov. 20th, 1908.

tosis. He was able to show that the serum acts on the bacteria in such a way as to render them acceptable to the leucocytes, and could further show that without this previous action, the bacteria were taken up in very small number only, or not at all. The substance in the serum which thus prepares the bacteria, he called opsonin, and demonstrated its presence in normal serum, as well as in the serum of those suffering from bacterial infections. He showed that the opsonin content of the serum was markedly affected by injections of emulsions of dead bacteria—the so-called vaccines. This term is objected to because it implies the presence of a living organism obtained from “vacca,” the cow. “Bacterine” is used by one of the commercial houses, and is thus at once eliminated from consideration. “Bacteriotherapy” is an accurate and useful word, as is McFarland’s term, “Bacterination.” One of these two words should take the place of the inaccurate “vaccination.”

The object of the injection of a bacterial emulsion is to increase the protective powers especially the opsonic content of the blood. Injection into a normal person produces one of three phenomena, according to the amount injected. A rapid increase in this substance, followed almost immediately by a return to normal, is the result of a small dose. A preliminary drop followed by a rise to above normal, and later by a gradual return to normal, is occasioned by a moderate dose. A fall more or less permanent results from a large dose.

In septicaemia it would be disastrous to allow the amount of opsonin to fall below normal, for during a negative phase of only a few hours, all the symptoms might be profoundly aggravated. It follows from this that our inoculations should be minimal

in amount, and that re-inoculations should follow one another at short intervals—which may very well be not longer than a day each. A rise in the amount of protective substances is said to be frequently accompanied by a drop in the temperature, and conversely.

In chronic, or strictly localized processes, a negative phase is not so disastrous, and we may give a moderate dose. This it will be remembered, is frequently followed by a fall, with a subsequent rise in the amount of protective substance, a rise which may be of seven or eight days’ duration. So our inoculations may here be ten or twelve days’ apart. The onset of the negative phase is often shown clinically by an aggravation of the symptoms. This should not last more than twenty-four hours. If it does, the dose has been too large. Let us suppose that three cases of acne have been given, three doses of different size, of an emulsion of the staphylococcus. The first case shows an immediate improvement, which, however, is but of short duration. The dose in this case has been too small. The second case has an increase in the severity of the symptoms, which lasts for twenty-four hours, and which is followed by a gradual mend. The dose here has been properly gauged. The third case exhibits an increased severity in the symptoms, lasting over a period of three or four days. Here the dose has been too large.

As a general rule, localized infections are by far the most likely to be benefited by bacteriotherapy. In this class of cases the substances elaborated by the invading organism do not reach the circulation in any considerable quantity, and thus the body receives no signal to increase the output of protective substances. So there is

a reserve power which we may call into action by the inoculation of an emulsion of the organism in question. In general infections, on the contrary, the body is already taxed to its uttermost, and further stimulation of its protective mechanism is idle—and perhaps dangerous.

In all infections except those caused by the staphylococcus and the gonococcus the emulsion should be prepared from the particular organism causing the lesion—that is the emulsion should be homologous. The first of these organisms is excepted because stock emulsions have been found almost, if not quite as valuable as those prepared from the autogenous organism; the second because of the difficulty of cultivating the gonococcus from its lesions. In treating tuberculosis, use is made of Koch's New Tuberculin (T. R.), in doses of from 1-4000th to 1-30,000th mg. It should be heated to 60 C. for one hour, so that if any live tubercle bacilli are present they may be destroyed.

Concerning the value of bacteriotherapy, the following results have been gathered from the recent literature. Early cases of glandular tuberculosis, tuberculosis of the bones and joints, tubercular peritonitis, lupus, tubercular epididymitis, and even very early cases of pulmonary tuberculosis, have been reported as improved through the cautious use of tuberculin.

Gonorrhoeal urethritis and conjunctivitis resist treatment, but very encouraging results have been obtained in joint involvements—except in long standing cases, where structural changes have occurred in the joints. Opinions differ as to the value of the treatment in the vulvo-vaginitis of children.

Of infections by the colon bacillus there

have been reported gall-bladder fistulae following operation for gall stones, and colon infection of the genito-urinary tract—both of which conditions have frequently yielded promptly to the treatment.

Fourteen cases of pneumonia have been reported, in which the crisis followed the administration of the treatment within eighteen hours, in all but one case. The mortality in this series was 27%.

A few cases of bacillary dysentery have been treated successfully.

Local infections with the staphylococcus, as acne, furunculosis, etc., yield to this treatment more readily than any other class of cases.

Reports as to the value of bacteriotherapy in streptococcus infections vary widely. Erysipelas has been subjected to inoculations of emulsions of the organism just mentioned, whereby the course of the disease has been somewhat shortened. But it does not appear that either migration or recurrence has been prevented. It is not probably of advantage to have an emulsion of several strains of the streptococcus, on account of the wide variations in virulence of this organism. This stock emulsion one would only use, of course, pending the preparation of an autogenous emulsion.

In conclusion, it can safely be said that a review of the literature leaves one under the impression that the general sentiment among clinicians is distinctly in favor of bacteriotherapy in suitable cases. Many desperate cases have apparently been benefited, or even cured, local infections have sometimes improved in a marvellous fashion, and no case has yet been reported in which harm has been done, when the doses have been properly repeated.

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THE FETAL CIRCULATION.

BY

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The various text books dealing with the subject of the fetal circulation give the course of the blood passing through the fetal heart in the following manner: "On reaching the inferior cava, this pure blood (from the ductus venosus and hepatic veins) is mingled with the venous blood returned from the lower half of the body and the abdominal viscera, the mixed stream so formed being poured into the right auricle. On entering the heart the current is directed by the Eustachian valve towards the foramen ovale in the auricular septum and enters the left auricle. After receiving the meager additions returned by the pulmonary veins from the uninflated lungs, the blood passes through the left auriculo-ventricular opening into the left ventricle. Contraction of this chamber forces the blood into the systemic aorta and thence to all parts of the body. After traversing the vessels of the head, neck, upper extremities and thorax, the venous blood from these parts is returned to the heart by the superior vena cava, but on entering the right auricle does not mingle to any extent with the current returned by the inferior cava, but passes through the auriculo-ventricular orifice into the right ventricle. With the contraction of the ventricle the blood is propelled into the pulmonary artery towards the lungs. Being uninflated these organs can appropriate only a small part of the entire volume of blood brought by the pulmonary artery, hence the necessity of a second by-pass the ductus arteriosus, that extends from the beginning of the left pulmonary artery to the adjacent aorta and

represents the still pervious distal portion of the last aortic arch on the left side. By means of the ductus arteriosus, the venous blood returned from the head and upper extremities is poured into the great descending trunk, the aorta, and carried to the abdominal viscera and the lower extremities. On reaching the bifurcation of the common iliac arteries, the blood stream divides, that part going into the internal iliacs being of much greater importance, so far as the general nutrition of the fetus is concerned, since it is carried by the continuations of these vessels—the hypogastriacs and umbilical arteries—to the placenta, to be once more purified and again returned to the fetus by the umbilical vein. From the foregoing sketch of the fetal circulation it is evident that, with the exception of the umbilical vein, no vessel within the fetus conveys strictly arterial or fully oxygenated blood, since on entering the inferior cava the pure blood is mixed with the venous returning from the lower half of the body. It is further evident that the blood distributed to the head and upper extremities is less contaminated than that passing through to the lower half of the body from the branches of the aorta given off after junction with the venous stream conveyed by the ductus arteriosus." (Pier-sol, *Human Anatomy* ['07] p. 930).

It might be inferred from the wording of this passage that information on the course of the blood through the fetal heart is quite definite, when as a matter of fact, this is only one of a number of theories. The scheme is that presented by A. von Haller (1707-1777) and Sabatier (1737-1811) and was brought to the attention of the medical profession by the eminent anatomist Bichat (1771-1802) in his general systematic anatomy. The theory

makes use of the tubercle described by Lower (1631-1691) which was placed between the opening of the superior and inferior cavæ and was supposed to direct the blood from the superior cava toward the right auriculo-ventricular orifice and also employs the Eustachian valve (1500-1571) to further assist in preserving the identity of the two caval currents in the right auricle. It offers in addition an explanation for the better development of the head end of the embryo in that this region receives a better blood supply. It is interesting to note that since the work of Reid (1835), an extremely superficial investigation, no article has appeared in favor of this theory and practically all have favored another theory—that of C. F. Wolff (1733-1794).

Wolff has justly been termed the "Father of Embryology" and it is not to be wondered at that his theory on the course of the blood through the fetal heart should meet with a better reception in the literature than that of von Haller-Sabatier. It even antedates this theory by a number of years. Wolff's theory, in a word, was this: he found that the orifice of the inferior cava was placed at the border of the auricular septum which in the fetus was deficient in this situation—the foramen ovale. Now the blood passing into the heart through the inferior cava was split upon the free border of this opening (limbus Vieussens) and half of the blood passed through the foramen ovale into the left auricle, the other half directly into the right auricle. The foramen ovale therefore does not afford communication between the two auricles, according to Wolff, but connects only with the left part of the inferior caval orifice. Practically every article that has appeared since 1835 has been strongly for this theory

which to judge from the text books does not exist. I call the reader's attention to the Ziegenspeck's recent article in favor of the Wolff theory and to my own opposing it.

There is however a third theory which grants that the foramen ovale does afford connection between the two auricles and which also states that the two caval currents mix in the right auricle. This theory because it is a combined result from the investigations of Galen (3rd century) who discovered the foramen ovale and ductus arteriosus, and of Harvey (1578-1657) who in addition to his famous discovery of the circulation, also dealt with the fetal circulation,—might be well named the theory of Galen-Harvey. The three theories may be presented in the following manner: The theory of von Haller-Sabatier maintains that the superior cava returns a relatively large amount of blood from the head and upper extremities; the inferior cava returns nearly the contents of one ventricle (the left); the pulmonary return is relatively small in amount; the ductus carries more than one-half of the contents of the right ventricle into the Aorta descendens; the foramen ovale affords communication only to the blood returned by the inferior cava and passes nearly all of this blood into the left auricle. The theory of Wolff holds that the superior caval return is equal to one-half of the contents of the right ventricle; that the inferior caval orifice is split so that it passes blood into the right and left auricles; the pulmonary return is free; the ductus carries about one-half of the contents of the right ventricle; the foramen ovale communicates only with the left auricular opening of the cava inferior and transmits about one-half of the blood from that vein. The

theory of Galen-Harvey states that the superior caval return is relatively large; that the inferior cava carries more than the contents of one ventricle; the pulmonary return is small in amount; the ductus carries a large amount of blood from the right ventricle; the foramen ovale affords communication between the two auricles and transmits mixed blood from the right auricle into the left. In both the Wolff and the Galen-Harvey theories the two ventricles contain about the same quality of blood, while in the von Haller-Sabatier scheme the left contains more arterial blood than the right ventricle.

The von Haller-Sabatier theory may be dismissed with a word. This prevalent scheme has not met with the approval of any investigator since 1835 and should certainly be eliminated from the text books. The points to be brought out in its favor are that it attempts to explain something,—the more rapid growth of the head, a function for the Eustachian valve, etc. This may be termed “explanational anatomy” and it explains nothing. It is like the wise men who argued that a fish placed in a full bowl of water would displace none of the water, and it was proven to be false by the first man who tried it. It is not to be expected that the writers of text books are thoroughly oriented on all phases of the subjects which they write about but it does seem remarkable that this crossing of currents in the fetal auricle should retain so firm a hold.

The Wolff theory, while based on good anatomy, fails to take into account the free placental circulation and also fails to consider the coronary, bronchial, azygos circulations and the probably large lymphatic return through the thoracic duct. It returns too much blood through the superior

cava and not enough through the inferior cava to meet the conditions. But this is like the wise men and the fish—so I tried it.

It has long been known that fetal pigs will live in the removed uterus for many hours and I also found that the pigs would live for many minutes even after they were opened and the heart exposed. Accordingly corn-starch granules suspended in normal salt solution were injected into the umbilical vein, the superior cava and in both; the blood stream propelled the granules to the heart and blood was recovered from the beating ventricles simultaneously by means of identical pipettes. The blood thus obtained was cleared with $\frac{1}{2}\%$ acetic acid and examined under microscope for the granules. I obtained positive results (granules present) in 12 samples with injection of umbilical vein; in 6 with injection of the superior cava; and in three with injection of both in the same animals, and found that in all cases the granules were found on both sides of the heart. This proves, in an experimental way, the theory of Galen-Harvey that the foramen ovale affords communication between the two auricles and that mixed blood passes from the right into the left auricle. The result is entirely contrary to the von Haller-Sabatier and the Wolff theories.

The theory of Galen-Harvey states that all the arteries in the fetus contain mixed blood and is a good working theory for normal as well as abnormal conditions in the development. The persistence of the foramen ovale and ductus arteriosus are, however, more important to the physician. The detail of the closure of these structures must be worked out before we can definitely state why they sometimes persist. The important of the two, from the practical standpoint, is the persistence of the ductus

arteriosus which results in the "blue baby." I would like to side with Munro of Boston who has been advocating the possibility of ligating this structure. As an anatomist, I believe that with the recent advances in chest surgery, there is no reason why the operation may not be done successfully, provided, of course, that the failure in closure of the ductus is not due to some primary defect in the lung circulation itself.

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EARACHES, THEIR CAUSES AND TREATMENT.¹

BY

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There is no condition that is more painful or relief from which is more appreciated than that of an acute earache. The causes of earache or of otalgia are so varied that in a short paper it is possible to give only a brief general outline, which I trust may be of service.

To classify earaches according to pain or location is difficult, owing to the intensity being differently described by different sufferers; thus it is spoken of as slight, intense, lancinating, boring, splitting, sharp, deep seated, etc. The location, when the external ear is affected is accurately shown, but when deep seated it is more difficult to locate, being described as inside the ear or in the head.

For general consideration we can class-

¹Read before the Eastern Medical Society, April 9, 1909.

ify the causes of otalgia as due to, 1. Traumatism. 2. General Diseases. 3. Reflex Conditions. 4. Inflammatory Conditions.

1. *Traumatism*.—Under the first class, we find as a prolific cause foreign bodies in the ear canal. They may be inanimate objects which children in their play poke into their ears as beans, peas, buttons, bullets, pebbles, etc., or they may be living objects such as bugs, flies, worms, etc. Pains due to the injudicious use of tooth picks, hair pins, ear spoons, as well as those resulting from direct violence as blows, boxing, violent kissing, explosions etc., must also be considered under this heading.

Included also, are the earaches due to the pouring of irritating substances into the ear canal, or burning, through the use of hot fluids, and the impact of the water during surf bathing or diving.

2. *General Diseases*.—Under general diseases we find among the most prominent causes, influenza, mumps, the exanthemata and in fact we must include all the contagious and infectious maladies. In this class malaria, rheumatism, syphilis in all its stages, tuberculosis, and diabetes play a prominent part. Nephritic ailments occasionally cause otalgia, but it is more often due to anaemia, hysteria, and neurasthenia.

3. *Reflex Conditions*.—When we consider that any irritation in any part of a nerve either at its origin or during its entire course may be referred to any part supplied by it or vice versa, we can readily appreciate the problem presented by the reflexes upon reviewing the innervation of the ear.

The great auricular from the cervical plexus supplies the inner surface of the

auricle and the integument of the mastoid. From the same plexus nerves supply the parietal and occipital regions of the neck and shoulders with sensation.

The auriculo temporal branch of the 3rd division of the 5th nerve supplies the outer surface of the auricle, superior part of the canal and adjacent side of the membrana tympani, and it also supplies the temporal region with sensation.

The auricular branch of the pneumogastric supplies the back of the ear, the inferior portion of the external canal and tympanic membrane. The tympanic plexus supplies the tympanic mucous membrane. This plexus is formed by the nerve of Jacobson, from the petrosal ganglion of the glossopharyngeal, the small petrosal from otic ganglion of the trigeminus and small branches from the carotid plexus of sympathetic.

As these different nerves with their anastomoses, supply other structures one can readily see the extent of the area in which irritation may exist and still be referred to the ear.

Thus rheumatoid arthritis affecting the temporo-maxillary articulation, ulceration in naso-pharynx, especially at the orifice of the eustachian tube, various tonsillar affections, ulcerations at base of tongue, of epiglottis and of rima glottis, cancer of tongue and of larynx, as well as the after effects of operations on tonsils and adenoids, may all cause pain referable to the ear.

The teeth are potent causes of otalgia. This may occur during their eruption, from caries, or malformations, and not only in childhood, but at any age. Thus the eruption of the 3rd molars or wisdom teeth are often associated with pain referred to the ear.

One of the most instructive cases was a child referred to me by the family physician with the history that the little one cried every night for the previous three months with earache, but during the day there was no sign of suffering. The examination was negative except for an irregularly situated molar. The tooth was extracted and the pain ceased.

4. *Inflammatory Causes.*—In this division the principal cause of ear ache is otitis media acuta. The other conditions causing it are erysipelas, furuncles, chondritis, perichondritis, inflammatory conditions of eustachian tube, lack of drainage or involvement of bony structures in otitis media purulenta, ulcerations in the canal, and herpes zoster. While perhaps not exactly belonging under this head, we may still include new growths whether malignant or benign such as cranial tumors, and also exostoses in the canal, cysts, cholesteatomatous masses, polyps and granulations.

Hypertrophied tonsils and adenoid vegetation not only cause earaches, but also are the principal causes of recurrent earaches.

Treatment.—In considering the treatment in the different conditions we can only do so briefly. 1. In traumatism, foreign bodies should be removed wherever possible with syringing and not with instruments unless unavoidable. Children in these cases are best treated under general anaesthesia. In direct violence, causing rupture of membrana tympani a gentle wiping out of the canal and a gauze drain is all that is necessary unless suppuration ensues. Vesicles due to burns of hot fluids, if large and obstructing canal or if exceedingly painful should be opened, and the parts kept clean.

After bathing or diving when water enters the external canal the cerumen which is washed and pressed against the membrana tympani should be syringed out, and any inflammatory condition should be treated as an acute otitis.

2. General diseases, and 3. reflex condition. The pain due to diseases of the general system requires the treatment of the disease and the local condition which it may excite. In malaria, quinine; in rheumatism, salicylates, or aspirin; in syphilis mercurials, iodides and so on through the list. Neuralgia of mastoid should be treated with belladonna or chloroform liniment or counter irritation. The pain of a sclerosed mastoid can often only be cured by operation.

4. In inflammatory conditions, acute otitis media is best treated at first with a purge, and if possible, the patient should be put to bed, a hot water bag applied to ear and irrigation with hot boric acid or normal saline solution should be used. Wicks of gauze saturated in a 10% solution of carbolic acid and glycerine are sometimes effective in giving relief, and should be changed as needed. At times a gentle inflation will relieve an attack.

Instillations of 10% solutions of cocaine and adrenalin or of tr. opii in glycerine warmed, are at times helpful but in using these different solutions the canal must be cleared of cerumen. Local abstraction of blood either with natural or artificial leeches is useful and occasionally opium or one of its derivatives will cut short an attack. For fever phenacetin, aspirin, or an antipyretic may be prescribed and sometimes these also act as a sedative. Saturating cotton with chloroform and blowing the vapor through a speculum into the canal often acts nicely.

A bulging membrane with pain, deafness, or high fever should be incised. Pain persisting for four or five days after incision, if drainage is complete, usually denotes the extension to the bony structures. For the mastoid pain an ice bag seems to give the best relief.

In furunculosis the local swelling usually makes the diagnosis easy. The treatment is hot irrigations, strips of gauze soaked in alcoholic solutions where possible, and incisions. Tonic treatment is of course indicated. Painting with camphor and phenol, or salicylic acid in colodion is sometimes effective. As these furuncles are due to the entrance of the staphylococcus albus et aureus in a hair follicle, so upon repeated attacks, the aureus vaccine with an initial dose of 100,000,000 to 250,000,000 can be used with success. Adenoids and hypertrophied tonsils should be removed, and if attacks still recur, the eustachian tube should be treated with inflation, iodine vapor, etc.

In closing I wish to emphasize the necessity in each case of ear ache, of examining the membrana tympani and canal for signs of inflammation and if none exist then of extending the examination to the adjacent parts and *seriatim*, the nose, naso-pharynx, pharynx, mouth, teeth, and larynx and so assign the affection to its proper source.

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DISCUSSION.

Opened by Dr. Percy Friedenberg, who said that Dr. Jarecky had, in an apparently short paper, gone over the ground so thoroughly that there was little left to add. He thought the subject one of great importance to the general practitioner. The manifestations of pain in children with otitis media are very variable. In 75% of cases reported there had been no history of a child having had pain. In most of the cases the first evidence had been a discharge from the ear, that being a very common

occurrence. The child will have a temperature; will not eat and will sleep very badly at night. He thought it necessary in every case of a small child with temperature or inanition or lack of appetite, to examine the ear at regular intervals and to make it a routine measure in infectious diseases, examining the ear every second day. The examination of the ear is by no means an easy matter; it is much more difficult than the examination of the eye. With the head mirror and a reflected light it takes a long time, and in cases of acute exanthemata it is often covered with cerumen and it is impossible to see what the trouble is.

Dr. Friedenberg said Dr. Jarecky had called attention to reflex pains; he, himself, thought the most intense earaches due to ulcerative conditions in the labyrinth. Tuberculous ear disease is not associated with pain. Cases where the bone is exposed are painful. The most intense pain is found in cases of purulent otitis media. He had found the application of heat more effective than anything else.

Dr. Wm. Leszynsky said that as a matter of fact the neurologist did not see patients who complained of simple earache. When they did have pain, they consulted either a specialist for the ear or a general practitioner. He had been interested in Dr. Jarecky's description of the nerve supply of the ear. Within the last few years there have been new investigations made and new facts recorded in regard to this matter. Formerly it was assumed that the anterior portion of the auricle was supplied by branches from the fifth nerve, and that the posterior portion of the auricle was supplied by the second and third cervical nerves. Within recent years it has been shown that the facial nerve possesses a sensory supply through its geniculate ganglions and the pars intermedia of Wrisberg, and that the corresponding cutaneous representation of the sensory portion of the facial nerve is in the external auditory canal and the interior of the auricle. This area has been found free from any disturbance of sensibility after division of the sensory root of the fifth nerve for the relief of trigeminal neuralgia, and after the second and third cervical nerves have been divided in cases of occipito-cervical neuralgia.

There are cases in which pain is complained of in the auditory canal and in the front part of the auricle which is, at times, accompanied by a herpetic eruption in this area, and blebs may also be formed on the tympanum. These symptoms may be followed in a few days by facial paralysis. The severity and extent of these symptoms depend on the degree of the inflammatory process in the geniculate ganglion. They are analogous to cases of herpes zoster involving the ganglia of other nerves.

Dr. Louis Fischer said: In an examination of a sick child, the ear demands as careful an examination as the heart. The diagnosis of every throat affection or naso-pharyngeal affection, I should not consider complete without an aural examination. The ease with which pathogenic bacteria may and do enter the Eustachian tube, and set up an inflammation should

be remembered. This is especially true while dealing with the acute infectious diseases such as influenza, diphtheria, scarlet fever, and typhoid. As an instance of otalgia during the course of typhoid, I would like to report the following: A child, Rosie—about six years old, was admitted to my service in the babies' wards of the Sydenham hospital, several weeks ago. The most marked symptoms were fever, roseolar, and enlarged spleen, general prostration and diarrhoea. Dr. Littenberg of the house staff reported a blood count of 7,000 leucocytes-leukopenia. The urine gave a strong diazo reaction, and a positive Widal reaction in a dilution of 1-50. Diagnosis: typhoid fever. With careful dietetic and medicinal treatment, the disease progressed for two weeks, when suddenly a sharp rise in the temperature was noted. An aural examination showed a marked bulging of the drum. A paracentesis by Dr. Alfred Wiener, making a good free opening, liberated the pus. The temperature dropped and convalescence continued. At the time of writing the child is in a normal condition ready to be discharged.

An important point brought out by Dr. Jarecky in his interesting paper, is the necessity for an early and thorough incision of the drum when bulging is present. By this thorough drainage, no doubt we can frequently avoid an extension into the mastoid cells.

Disturbances of metabolism, such as gastro-enteritis, are frequently associated with otitis. Likewise, however, we frequently have otitis and rhinitis with reflex gastric and gastro-enteric symptoms. Vomiting, although usually noted in conjunction with gastric disturbance or meningeal disturbance, is frequently an early symptom of severe otitis.

The following aphorisms should be noted: *Prolonged fever* in an obscure condition—examine the ears; *sudden fever* during convalescence, demands an aural examination. When in doubt concerning an accelerated and increased heart action with or without fever—examine the ears. I have seen a double mastoid, and more than one case of unilateral mastoiditis, with a normal temperature, during my scarlet fever service at the Willard Parker hospital. Otalgia and otitis demand a throat examination, and if present, adenoids are to be removed.

One word of warning—do not allow a mother or nurse to syringe the nose of a child when a purulent discharge is present. Remember that most cases of Eustachian tube infection are carried there by forcing pathogenic bacteria, by mechanical means while douching.

If an infant or child awakens suddenly from a sound sleep, and rolls its head, and appears restless, suspect one of two things—first, intestinal colic; second, otalgia. A mistake is made by giving opiates to relieve pain which make the children doxy and mask the symptoms.

Dr. S. J. Kopetzky said that he wanted to thank Dr. Fischer for his stand in regard to the nasal douche. He thought that all who practice otology among the very young, and

for that matter even among the school children, would agree with him, that the liability of abuse of the nasal douche was a matter to be impressed upon the general practitioner and the parents of these patients.

Regarding the coincidence of gastro-intestinal disease in childhood with otitis media, here he also agreed with Dr. Fischer. The question of determining whether the offending trouble lay with the ears or in the gastro-intestinal tract was often difficult, since a gastritis with diarrhoea was often the result of streptococcic infection of the middle ear spaces. The absence of pain in otitis media in children was a common observation, due probably to the greater outlet afforded the pus by the open lumen of the Eustachian tube at this age.

The observation of Dr. Leszynsky regarding herpes, was of value in the differentiation of paralysis facialis due to an intra-labyrinthine suppuration and ordinary facial palsy (Bells').

Dr. Jarecky had mentioned otalgia among the conditions causing earache. Dr. Kopetzky wanted to add, that in this condition, in spite of a perfectly normal middle ear, and external ear, as far as these were determinable, yet the patients would complain of an almost unbearable pain over the mastoid region. For this, the mastoid operation had been recommended, but in the speaker's experience, incision over the mastoid process, and a full retraction of the periosteum, completely separating it from the bone, gave the patients relief, thus sparing them the dangers of the more severe operation.

Dr. Danzinger said that in traumatism of the ear he wanted to warn against the use of the syringe. As soon as one got a hemorrhage, one had to deal with a ruptured drum. It was possible to infect the middle ear and get a long suppurative process, which, in case of a fracture, might produce more serious consequences. He had seen a case where a young fellow tried to relieve an itching in his ear and the point of the pencil he had used had gone into his ear. Two hours after when the speaker had seen him, there had been a blood clot in the ear, which was easily removed. He had also succeeded in pulling out the point of the pencil and had put aseptic packing in the ear.

Dr. O. Glogau said that in mentioning the causes of earaches, Dr. Jarecky had forgotten the sinuses, which might cause ear trouble. Two or three weeks ago the speaker had seen a case where the drum was normal and no cause could be revealed for the existing pain. There had been a bad tooth, and after its removal pus had come from the antrum.

Dr. Fischer had remarked that in some cases of ear pains it was better to use morphine injections; otherwise it would not be possible to learn whether or not the mastoid were involved. The speaker thought it better to apply cocain and adrenalin, which would make the drum senseless. Drs. Fischer and Kopetzky had said that in many children with perforated drums there was no pain. He had examined the children of an orphan asylum and

had found 99 out of every 100 with perforated drums. In the dispensaries children were often brought for examination of the ears because they had fever, and in many of the cases a paracentesis had to be made.

Dr. Kopetzky said he wanted to bring out one more point. If a baby has a diarrhoea and temperature and one is in doubt as to whether the ear or stomach is affected, if the baby is hungry and does not nurse but takes food from a spoon with avidity, the trouble is in the ear, as if there is an otitis, the act of sucking will cause pain. He thought this a very practical diagnostic point in infants.

Dr. Jarecky, in closing, said he thought the discussion had covered all the points. Dr. Fischer had touched upon the point of the apparent painlessness of otitis in children. As a rule Dr. Jarecky thought the child did have pain; those who put their fingers in their ears, were restless and had various other symptoms, which could not be interpreted by the doctor, did have pain. One other point had been brought up in the discussion—someone had said that the speaker mentioned temperature persisting after paracentesis; he had said instead that pain persisted. Regarding the percentage of children in an asylum with perforated drums, which Dr. Glogau had mentioned, the speaker thought the percentage a very large one. He thought the hygienic arrangements of the asylum must have been bad and all the children have had scarlet fever.

THE DIFFERENTIAL DIAGNOSIS BETWEEN GASTRIC ULCER AND CHOLELITHIASIS.¹

BY

HARRIS WEINSTEIN, M. D.,

New York City.

The differential diagnosis between gastric ulcer and gall stone disease is of peculiar interest to the practitioner for various reasons. The frequent occurrence of these diseases, their clinical identity and the meagre differential data at our disposal, make the study of this subject a matter of great practical importance. From a prognostic and therapeutic standpoint a differentiation between the two conditions cannot be overestimated. *Section in vivo* has exploded many a well established clinical fact, nevertheless our latest text

¹Read before the Eastern Medical Society of the City of New York, April 9, 1909.

books still teem with those facts. Is it any wonder that our most logical and scientific diagnoses of diseases of the upper abdomen are regarded with scepticism by the surgeon, when we still cling to the old schematic description of those diseases, which are as incorrect as they are fanciful? It does not require great wisdom to be enabled to prophesy, that in the near future some chapters on gastro-intestinal diseases will be rewritten with the aid of the surgeon, who will supply the practical aspects of those diseases. I believe it correct to assume that no matter how typical clinically a case of gastric or duodenal ulcer may appear there is a possibility of the diagnosis being erroneous, unless supported by unmistakable chemical and microscopic evidence. The difficulty arises, when on examination of the gastric contents or stool there is no blood found, and it is well established, that in a large proportion of cases of gastric ulcer there is no blood. Hyperacidity of the gastric contents is of no significance from a differential standpoint, for we frequently meet with it in both ulcer and cholelithiasis. The coincidence of both, hyperacidity and occult blood in the stomach contents or stool is conclusive evidence of ulcer; in the absence of blood, however, we are thrown on the clinical picture of the disease for a diagnosis. For obvious reasons I eliminate from present consideration those cases of gall stone disease which run a typical course, and which never do, nor ever should cause any difficulty in their recognition. My object is to consider the not at all infrequent atypical cases of cholelithiasis, which have no typical symptomatology, or which, clinically, simulate gastric ulcer. In most text books, and unfortunately in the minds of the profession at large, a point of diag-

nostic significance in the differentiation between cholelithiasis and gastric ulcer is the character, location and mode of onset of pain. Epigastric pain appearing some time after the ingestion of food, continuing through the entire digestive process and diminishing or disappearing when the stomach is emptied of its contents, is associated with gastric ulcer. The pain is of a burning or cutting character, and radiates from the epigastrium along the sternum and to the right or left reaching the spinal column. In cholelithiasis the pain is paroxysmal, and in the language of a prominent gastro-enterologist it comes on like a thunderbolt from a clear sky. It has no connection with the ingestion of food and is mostly confined to the right side. While I admit the correctness of the above in typical cases of either disease it does not hold good in the large number of cases which we may term atypical. We often meet with cases in which the history is indefinite. There may or may not be pain after a meal, there is epigastric oppression, pyrosis, sour eructations, distention of the epigastrium, a variable appetite, occasional attacks of vomiting and constipation. In some cases, again, pain is a prominent symptom; it may be constant and aggravated after the ingestion of food, or it may come on at a shorter or longer interval after a meal. Engrafted upon this symptom complex is a great variety of neurotic manifestations. Physical examination reveals tenderness on pressure over the entire epigastric region and a particularly sensitive area will probably be found. Analysis of the gastric contents shows a superacidity, but no blood, nor is there any blood in the stool. What construction are we to place on such insufficient data? The gastric irritability

described may just as well be caused by gall stones as by ulcer. The personal equation of the examiner will figure prominently in the decision, but it is just in this class of cases where all of us go wrong. Your patient may be placed on a strict ulcer treatment and he will improve wonderfully for a while, when all of a sudden an attack of hepatic colic comes on, and your diagnostic acumen suffers even in your own estimation. You have learned your lesson and your next case is positively diagnosed as one of biliary calculus when an attack of hematemesis sets your wisdom to naught. Both ulcer and cholelithiasis may run a latent course; the entire symptomatology may be summed up in heartburn or a sensation of weight in the epigastrium. Another class of cases presents a typical picture of hysteria or neurasthenia, a symptom complex which we are accustomed to term nervous dyspepsia. The subsequent history of these cases, nevertheless, reveals either gall stones or gastric ulcer. The above description gives merely a hint as to the peculiarities of the unusual types of these diseases, but each case really presents its own peculiar problems, and for their proper interpretation a refinement of the power of observation is required, which comes only after extensive experience. To explain the atypical symptomatology of calculous disease of the bile ducts, we must touch upon its pathology. A stone lying in the ductus choledochus above its narrow intramural portion, may act as a valve, allowing the bile to flow over and around it. Without obstructing the duct, it is, by the vis-a-tergo of the bile current during digestion, made to change its position, thus irritating the lining membrane of the duct, resulting in spasmodic contraction of the tube. Thus the pain con-

tinues throughout the digestive act. If an ulcer forms in the duct from pressure of the stone, pain may be constant and blood may even find its way in the intestine along with the bile. Extension of the inflammatory process to the serosa, resulting in adhesive peritonitis will cause complications, into the consideration of which I need not enter here. I will mention, however, that if the pylorus becomes involved in the mass of adhesions, gastrectasia will develop, which may well be ascribed to pyloric obstruction caused by a cicatrized ulcer. A concretion in the gall bladder may cause pain during the digestive act only, the patient being free from pain at other times. I have had occasion to observe several such cases. Intrahepatic biliary calculi, owing to the small size of the ducts, cause no perceptible interference with the flow of bile, hence there is no icterus. The severe attacks of cardialgia that they cause and the difficulty of their interpretation, is well known to you all. These cases it is almost impossible to distinguish from gastric ulcer. Without going further into the subject I shall report briefly two cases, in order to illustrate the difficulty of diagnosis in these conditions.

CASE I. A lady of 45 consulted me for an illness of 19 years' duration. For years she suffered with epigastric pain and vomiting after meals. During the last 8 years pain was not a prominent feature, but 3 or 4 days during the week she vomited after each meal. There was constant nausea and epigastric distress. As a result of her long illness she was extremely emaciated and weak. Prominent internists in this country and abroad have concurred in the diagnosis of gastric ulcer. During a 6 months' sojourn in Vienna she was under the care of a well known clinician, who was of the same opinion. There was however, no improvement in her condition. Gastric analysis showed absence of free hydrochloric acid, a negligible total acidity, and

an immense quantity of mucus enmeshing undigested food particles. Ascribing all her symptoms to the mucous gastritis I instituted daily gastric lavage for a number of weeks, and with careful dieting I succeeded in relieving her to such an extent that by the end of a year she gained over fifty pounds. She continued in good health, until irregular living in hotels while travelling out West brought on the old symptoms. Charles Mayo who was consulted advised an exploratory laparotomy, and in his letter to me he stated that a stone was present in the cystic duct, the gall bladder was shrunken and was unfortunately undergoing carcinomatous degeneration. There was no sign of an ulcer or of a scar in the stomach. That many prominent physicians in this country and abroad failed to make a diagnosis in this case, is a sad commentary on our diagnostic ability.

CASE II. Another case, just as interesting, came under my observation only recently. It concerned a man of about 49, who enjoyed good health up to within a week before he consulted me. Shortly after a particularly heavy meal he took sick with epigastric pain that lasted several hours. Since then pain appeared regularly 2 hours after a meal. In the intervals he was free from pain or distress. Beyond occasional heartburn there were no symptoms referable to the stomach. Gastric analysis showed normal mobility and good secretory function. Stool examination negative. Physical examination revealed a sensitive area, located somewhat to the right of the mid-epigastrium and about an inch below the costal arch. The location of the pain point and the definite relationship that the pain bore to the digestive act led me to believe that I had a duodenal ulcer to deal with. Strict dieting and the usual ulcer treatment had such an excellent effect, that he was entirely free from pain for 3 weeks. Of a sudden he was taken sick with severe pain in the right ileocaecal region, incessant vomiting, muscular rigidity and moderate elevation of temperature. Examination revealed a dull area about the size of a silver dollar located to the right of the mid-epigastrium somewhat above the umbilicus and merging into hepatic dullness. Palpation was unsatisfactory because of the extreme rigidity of the abdominal muscles,

nevertheless resistance could be elicited, which seemed to have no respiratory mobility. My diagnosis of pericholecystitis due to a concretion in the gall bladder proved to be correct. My colleague, Dr. Cronson, operated on this patient and he found a large distended gall bladder bound to the peritoneum by extensive recent adhesions. A large stone, the size of a walnut, was removed from the cystic duct, where it was tightly wedged in. He made an uneventful recovery. In this case there was absolutely nothing to suggest cholelithiasis, the clinical picture pointing rather to a pyloric or duodenal ulcer. I have records of many cases where the question rested between gastric ulcer and cholelithiasis and where it was impossible to decide between the two diseases. Only recently I had a young woman operated for gall stones by Dr. Simon Strauss, in which case there were no symptoms that should have suggested the presence of stones beyond gastric irritability and hysteria. Nevertheless 5 fairly sized stones were removed from the gall bladder. For 3 years she had been going the rounds of physicians' offices and dispensaries, and she was also an inmate of 2 hospitals. She was regarded as an inveterate neurasthenic by all. Her neurasthenia is at present a thing of the past. In this case I based my diagnosis on the absence of disease of the stomach, on the absence of splanchnoptosis and on freedom from pelvic disease. In other words, being a firm believer in the presence of some physical cause for most psychoneuroses, and being aware of the fact that gall stones frequently cause hysteria by irritation of the central nervous system through the vagus, I excluded all possible irritating factors of the nervous system and thus arrived at the diagnosis of gall stones by exclusion.

I follow the same course of reasoning when in doubt as to whether a given case

is gastric ulcer or cholelithiasis. When a question of diagnosis arises between these two conditions, and the ordinary methods of examination prove inconclusive, it is certainly reasonable to assume that in order to settle the question, a diseased condition of the stomach should be proved or disproved. If disease of the stomach can be excluded, we naturally have no right to diagnosticate ulcer, and we must, therefore, ascribe the gastric symptoms to some other cause. The presence, therefore, of the clinical features of gastric ulcer in the absence of occult blood, should not tempt us to ascribe it to those cases of ulcer in which blood is absent, without examining further into the functions of the stomach. If we bear in mind the fact that only the pyloric antrum possesses peristaltic activity, a diseased condition of that part of the stomach will seriously interfere with gastric peristalsis. Irritation exercised on the mucosa by an existing ulcer and by retained food particles causes hypersecretion. The normal stomach also possesses the property of completely emptying itself of its contents, so that after a certain lapse of time after a meal it is empty and at rest. Such, however, is not the case in pyloric ulcer. There is always more or less retention of food, even in the absence of stenosis or of pyloric spasm, and as a result there is digestive hypersecretion. Retention of food particles and hypersecretion should, therefore, lead to the suspicion of ulcer. While in pyloric stenosis retention is extreme, in ulcer it is slight, merely signifying weakened peristaltic power, and is often only microscopical. The examination of the stomach contents should be made 12 hours after the last meal, and if microscopic retention can be demonstrated by finding an occasional starch granule or plant cell, we

may safely conclude that the stomach is diseased and that the disease is gastric ulcer. My contention, in short, is as follows: That in doubtful cases of gastric irritability, where the question of diagnosis is between gastric ulcer and cholelithiasis, and when the ordinary methods of examination do not conclusively prove gastric ulcer, the supposedly empty stomach should be examined for hypersecretion and microscopic retention. If such is found we are safe in assuming the presence of gastric ulcer. In the absence of microscopic retention we cannot ascribe the symptoms to the stomach, and must therefore incline to the diagnosis of cholelithiasis.

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VAGINAL HYSTERECTOMY FOLLOWED BY APPENDICITIS; DELAYED OPERATION AND DEATH.

BY

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On May 12, of the present year, I removed a large fibroid uterus from a married woman, aged 34, mother of four children. Clamps were applied to the broad ligaments and the operation completed within fifteen minutes. The clamps were removed in 36 hours, and all seemed to be going well until the night of the fourth day, when symptoms of acute appendicitis developed. I was not, however, called to see the patient until the afternoon of the sixth day, when I found a diffuse peritonitis. A few drops of chloroform were given, followed by a drainage operation lasting less than a minute. A large quantity of seropurulent fluid was evacuated, but the enlarged and perforated appendix was left undisturbed in what was hoped to be a more or less circumscribed area of infection. The usual after treatment was applied, including the drop-by-drop saline in-

jection into the lower bowel. For a day the patient seemed to hold her own very well, but began to fail rapidly and passed away 36 hours after the second operation. It was a clear-cut case of perforating appendicitis, and, whilst an early operation might not have saved her, it is certain that a late operation lost her. It may be inquired whether the appendix might not have been injured during the performance of the hysterectomy, and I am able to say from ocular knowledge that it was not. Moreover, had the appendix been anywhere near the operative area, it is almost certain that any abscess following its rupture would have found its way out through the vaginal outlet. Several years ago this occurred in my practice, the opinion of the family physician and several others to the contrary notwithstanding.

Why can we not treat the appendix, as we generally treat other things, strictly on a basis of facts? In other words, believe what we see and not be misled by irrelevant things? Several years ago I operated on a case of acute appendicitis in a man who was confined to his bed with a broken leg.

As much as we have learned about appendicitis, we have yet to learn that we ought to treat it precisely as we treat cancer. To wait for the development of "clinical symptoms" is to trifle with death and defy the plainest teachings of overwhelming experience. When a host of our ablest surgeons, whose experience covers many thousands of cases, tell us that the actual pathology of the appendix is not reflected by the symptoms of the patient, why should the general practitioner presume upon a limited degree of good fortune, often mistaken for skill, and decide off hand what class of cases is operable, and what class not?

Appendicitis may occur anywhere, any time, in anybody who has an appendix. There is but one cure, namely operation, not when peritonitis has developed, but long before the infection has passed beyond control. Some laymen and a good many physicians "dread operation," having in mind operations performed under conditions which they do their best to perpetuate. We are deeply indebted to Fowler, Murphy, Ochsner and others for their thoroughgoing studies of the treatment of peritonitis, but the whole of it is along the wrong lines: one fire-proof building is worth a dozen fire engines. My belief is that within a few years the man who trifles with a case of appendicitis will be classed with the one who applies a greasy nostrum to a mammary cancer.

A NOTE ON THE MODERN CORSET.

BY

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It is so seldom that the physician can commend, from a hygienic standpoint, a prevailing fashion, that it affords the writer a real pleasure to pay a small tribute to the modern straight front corset.

In 1900 Dr. Charles R. Stockton wrote as follows: "The fact that more than 50 per cent. of all civilized women in all classes of life have developed the condition known as splanchnoptosis, which means that the stomach and intestines, very often the kidneys, and sometimes the liver are dragged down and remain permanently out of their position, is not generally known. Such however, is the case; and this condition

more than any other cause is responsible for the constipation, backache, debility, biliousness, early loss of complexion, headache, and that long list of ailments of which so many women in all civilized countries are victims."

Einhorn, in 1901, reported on 1912 patients, 347, or 18 per cent. of which had splanchnoptosis including gastroptosis. Of these 70 were men and 277 women, showing about 14 per cent. of the women with downward displacements.

The writer believes Einhorn's estimate very conservative for that time, but is confident that a report from Stockton at present would show a marked lowering in percentage of abdominal ptoses, in women especially.

In looking up the records during the last six months of 400 female patients, these being both in the private practice of the writer and a clinic with which he is connected, there are noted only 12 per cent. of ptoses of the abdominal viscera sufficiently marked to be considered. In practically every one of these the straight front corset was worn.

It is reasonable to suppose that 400 average women would have showed a smaller percentage, for many of these reported were being treated for gastro-intestinal disorders.

The general contour of the corsets now in use is entirely different from the corset of ten years ago; and, when properly fitted, tends to support and keep in place the abdominal organs. For this reason, if the dictates of fashion will permit a continuance of the present style, we may expect in the future to observe a noticeable diminution of the various forms of ptosis in women.

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CORRESPONDENCE.

SUNLIGHT AND TUBERCULOSIS.

BY

CHAS. E. WOODRUFF, M. D.

A REPLY TO

DR. S. A. KNOPF.

To the Editor of AMERICAN MEDICINE:

In your issue of July, 1908, there is an article by Dr. S. A. Knopf in which he gives such an amazingly incorrect impression of my work, that a reply is imperative. The whole tenor of this address to students is to the effect that I have advanced the ridiculous theory that all sunlight is harmful in tuberculosis, whereas the only facts or opinions I have ever had or published are that light is needed in small amounts but is deadly in excess—views which he has repeatedly expressed himself and which he reiterates in the above article. Medicine has always been cursed by inaccuracy of statement but Dr. Knopf's offense is much more serious. He has written to numerous physicians throughout the world, conveying the same incorrect impression, and received replies which necessarily do not express their whole opinion. He also says that they state that "blonds do no better in cold weather or colder climatic regions than those having brown or black hair; that brunettes do no better in warm weather or warmer climates," etc. I have communicated with many of these same men, and they write, as a rule, that they have never given the matter a thought, have never collected statistics and knew nothing definite about it, but of the few who have made observations, the general trend was the opposite of what Dr. Knopf has said.

In the *N. Y. Sunday World* of Jan. 12, 1908, there appeared an article under my

name as though I had written it, which consisted of extracts from other writings. A week or so later the *Sunday American* did the same. It is such a well known trick that I presumed every one knew it, and it was ignored, but Dr. Knopf without the slightest communication with myself, made it the basis of an article read at the Chicago meeting of the National Association for the Study and Prevention of Tuberculosis, June 6, 1908. I secured proofs of the article with permission to reply. Dr. Knopf then changed his article by inserting some facts from mine, (*N. Y. Med. Jour.* Sept. 12, 1908), and says, "this present article is of course not based on what was said in the *World*, but on editorials in the medical papers below referred to, of which the Major has acknowledged to me personally the authorship." The proof sheets show that the article was based on the *World* article. Those present received the same impression and one informed me that no attention was paid to it because it was based on a newspaper story.

His statement that I acknowledged to him personally the editorial authorship is without basis in fact. The authorship was acknowledged in the reply which had to be changed after he doctored up his own article.

He goes on to say, "The *Medical Record* of November 2, 1907, came out with a strong editorial under the heading 'Contradictory Advice to Consumptives,' and very pertinently says, 'surely there is greater need of uniformity of advice, for the average layman is unable to sift out and reject everything except the few essentials on which there are no differences of opinion.' " I hereby publicly acknowledge writing that "strong" "pertinent" editorial, and let out the further secret that

it was written with the sole purpose of inducing physicians to be sure of their facts and not publish such misleading articles as Dr. Knopf's. It is certainly amusing that he should condemn me for an article I did not publish, and praise the one I wrote anonymously. Moreover the lay papers got hold of the matter and widely quoted Dr. Knopf as saying "Sunlight harmful? Bosh." A statement which may lead many an invalid to fatal excesses.

Dr. Knopf continues, as to the *N. Y. World*, "Without my authority I was quoted in the lay press as approving Dr. Woodruff's theories, but, as already intimated, much sad and painful experience with inaccurate newspaper reports has taught me to be resigned to such unfortunate incidents." Leaving out of consideration the fact that he approves those theories, and omitting the fling at the inaccuracy of the lay press when he is so inaccurate himself, I can only say that even if we differed, it is refreshing impudence to intimate he is unfortunate to be considered in the same boat with my disreputable self. The libel is amazing coming from one who himself has so recently been suing a newspaper for misquoting him. Instead of suing Dr. Knopf I will generously excuse him on the ground of lack of familiarity with the English language, but would suggest that he confine himself to his native tongue in writing and then hire a first class interpreter.

The worst is yet to come. In a final reply published in the *N. Y. Med. Jour.* of Sept. 26, 1908, Dr. Knopf incorrectly says that in my article (*N. Y. Med. Jour.* Sept. 12, 1908) proving by numerous facts the correctness of his view that too much light is injurious, I have "indulged in fancies,"—and this from a man who dignified with an article, the fancies of the *N. Y. Sunday*

World, and he complains of "personalities" after his libel of two weeks previously! In that paper he also incorrectly states that I have accused Dr. Vincent Y. Bowditch of partiality "because he could not accept the Major's preliminary Report on Sunlight for his section of the Tuberculosis Congress." It was not offered to Dr. Bowditch, indeed, has never been written. He says that the object of his paper was to "refute the Major's wholesale condemnation of sunlight as a therapeutic factor,"—though I have never made any such wholesale condemnation. He also states that the view of "the greater susceptibility of blondes to tuberculosis (blondes out of their environment, of course) had no statistical or scientific basis," and this too is the opposite of truth. His expressed desire "to arrive at the truth" cannot be attained by ignoring the facts. In view of the fact that in the work on "The Effects of Tropical Light on White Men," and elsewhere I have furnished proof that some light is necessary for health, it is incomprehensible that he should say I have designated it "as a cause of tuberculosis."

It is difficult to imagine a degree of stupidity which leads to so many incorrect statements, consequently it would be justifiable to be harsh in dealing with a man who continues a misrepresentation, but here too I will excuse him on the ground of incapacity for accuracy of English expression or the understanding of English, for he does not seem to understand the expression "dark native land" in an article dealing with sunlight, and interpreted it as a reflection on German intelligence! I am leaving America for a two years' stay in the tropics, where I hope to collect more data proving that Dr. Knopf is correct in advising pa-

tients to avoid excessive light. But as he may still continue to misquote my views, and give the impression that I advise darkness, I claim the rights of an absentee, and request every one to hold in reserve every statement he makes as to my views, until I have a chance to reply. I regret the unfortunate position of the students of the Post Graduate Medical School, but as they have been misinformed once and as his last letter is grossly inaccurate, I can take no risks. Perhaps it might be well for the trustees of that great school to prevent the students going elsewhere for instruction, to suggest to this new member of the faculty that before publication he submit to me any articles which will honor me by mention of any kind, in order that I may wield the blue pencil.

It might be well also to suggest to Dr. Knopf, that since he has repeatedly stated that excessive sun exposure is harmful, it would be wise to do as other therapists do and let his students know what is excess. The facts already published indicate that indulgence in this stimulant must be very moderate indeed. So many physicians are reporting the damage done by what we once considered moderate light, that he is in considerable danger of facing the accusation from his own confreres, that in subjecting the naked bodies of his patients to the direct rays of the sun he is beyond the safety line, for some of them state that this interferes with recovery. His recent elevation to the dignity of a "professorship" must not blind him to the fact that in this twentieth century nobody except students necessarily believes a "professor" unless he furnishes proof. Laymen on juries openly state that they are compelled to ignore the opinions of the "professors" who are expert wit-

nesses. The whole world now "comes from Missouri and must be shown" that sun baths of any description do good, otherwise Dr. Knopf's mere statement that he "knows" they are beneficial, will be put down with that of the physicians of a half century back who *knew* that indoor treatment was beneficial. So far he has not furnished the facts upon which his conclusion is based, and until he does, he must expect disbelief from the coldly credulous. Cases get well with very little light as in Scandinavia or northern Scotland, for instance, but no one is foolish enough to advocate darkness. The personal injury done by the misstatements of Dr. Knopf is sufficiently great to warrant severe measures for exemplary damages, as it is most offensive to misrepresent and then publish contemptuous personal remarks based upon the misrepresentations, but the harm done to consumptives is so much greater, that the personal side will be ignored. The students of the Post Graduate School must be informed, that the three big cities on our rainy, cloudy, northwest coast, have enough light and have only one-half the death rate of New York City, whose light is considered so beneficial. In that cloudy N. W. section only one-twelfth of the deaths are from tuberculosis, whereas in the rest of the country, it is one-ninth. Moreover actual experience shows that the sanitariums there have a higher percentage of cures than in the sunny southwest.

It is a good policy never to tell a nervous woman that she has a floating kidney, unless the trouble of which she complains is directly attributable to it. If her mind is once drawn to this condition she is likely to ascribe all her symptoms to its presence and develop a neurasthenic state, from which nothing short of an operation will rescue her.—*Int. Jnl. of Surg.*

ETIOLOGY AND DIAGNOSIS.

The Differential Diagnosis of Pruritic Diseases.¹— Always, in the presence of pruritus of whatever variety, and in whatever station of life the patient may be, it is essential first of all to exclude the parasitic affections, *scabies* and *pediculosis*. If the patient be young, one must suspect scabies; if elderly, pediculosis. Some indication of the presence of either of these affections will be given by the nature of the eruption and its distribution. An illdefined scratched papular eruption involving more or less of the whole body below the neck suggests scabies. Scratched papules and scratch-marks on the skin of the back in an elderly person suggest pediculosis.

But to diagnose these complaints with certainty it is necessary to find the typical burrows in the case of scabies—about the wrists or fingers or sides of the feet, and on the penis in men—and the pediculus in pruritus of old people, in the folds of the linen about the neck.

When these parasitic affections have been definitely excluded, we must next examine the eruption to make out whether it is one or other of the more common eruptions which are accompanied by pruritus. We think of *eczema*, of *lichen planus*, of *urticaria*, and in children of *lichen urticarus*. If the eruption be eczema, we see the characteristic red, oedematous skin, cracked and oozing, or studded with pin-point erosions, vesicles, or crusts. If it be lichen planus, we have the violet-coloured, flat-topped, angular papules of this eruption, situated especially about the wrists and the inner sides of the knees. In urticaria we see the well-known wheals. In lichen urticarus, the papule with erythematous or urticarial halo. But it must not be forgotten that eczema may be the result of scabies, especially of scabies that has been over-treated with sulphur ointment; nor that, occasionally, scabies and lichen planus may be present together in the same patient; and that urticaria may accompany both scabies and pediculosis.

Having now excluded all of these affections—scabies, pediculosis, eczema,

¹ The Hospital, June 5, 1909.

lichen planus, urticaria, lichen urticarus—we must next endeavor to find out whether the itching depends upon some general condition. We know that a common cause of pruritus is some passing *gastro-intestinal disturbance*, that pruritus is common in *diabetes*, in *Bright's disease*, and in *jaundice*. It may also occur in patients with *cardiac disease*, in *pregnant women*; and—a very important fact to remember—in patients suffering from *malignant disease of the stomach or liver*. All these points should be carefully investigated before attempting to prescribe for this symptom.

There are two other less common causes of pruritus which one has to bear in mind, but which can scarcely be diagnosed with certainty until the patient has been under observation for some time. These are *dermatitis herpetiformis* and the early stage of *mycosis fungoides*. *Prurigo of Hebra*, a common cause of life-long pruritus in Vienna among the poor, is seldom met with in this country.

The Etiology of Hemorrhage in Child-birth.¹—The etiology of accidental and unavoidable hemorrhage is not definitely understood. The causes to which these abnormalities have been attributed are so numerous as to justify the inference that the real cause is unknown. As more than 70 per cent. of the cases occur in women who have borne children and the liability increases with each succeeding birth, multiparity and endometritis may be regarded as predisposing factors. The frequent association of nephritis with accidental hemorrhage is also of some significance. A short cord and traumatism may be direct factors in the production of hemorrhage from a normal placental site, while uterine myomata, malformation of the uterus and low implantation of the Fallopian tubes will help to explain some of the cases of *prævia*. Hofmeier explains the origin of the latter as the result of the fusion of the inferior pole of the reflexa with the decidua vera, while Strassman attributes it to defective vascularization of the decidua due to atrophic or inflammatory changes,

making it necessary for the placenta to spread over a greater area in order to obtain its requisite supply of nutriment. The unusual size of the placenta in these cases, when we consider the development of the normal placenta as described by Peters, lends support to the latter theory.

While the pathologic factors of postpartum hemorrhage are not clearly understood, we know that anything that lowers the vitality of the system predisposes to atony of the uterus, and this would undoubtedly retard the contraction and retraction of its muscular fibers and thus favor hemorrhage.

Therefore hemorrhagic diathesis, anemia, leucocythemia, nephritis and endometritis are regarded as predisposing causes. Cardiac, pulmonary or hepatic disease, producing obstruction or sluggishness of the maternal circulation, increases the liability to hemorrhage. Multiparity, precipitate labor, hydramnios and twin pregnancy, also favor postpartum hemorrhage. By far the most frequent cause of hemorrhage after birth is improper management of the expulsive and placental stages of labor. Hasty delivery, either by forceps, breech extraction, or version, may leave the organ unprepared for normal action. On the other hand, precipitate labor or protracted labor, by inducing inertia, may be attended by a similar result. The prolonged use of anesthetics, premature expulsion of the placenta, or a distended bladder, are likewise factors. Secondary hemorrhage is most frequently due to adherent placental tissue or the retention of blood clots.

A New Sign of Pregnancy¹.—Pregnancy is in the majority of cases an easily recognizable condition but occasionally one is confronted with a case in which it is very difficult to decide whether or not a conception is present. It has happened unfortunately many times that a pregnant woman has had her abdomen opened for the removal of a supposed ovarian or uterine tumor. It is in these borderline cases that one needs all possible data before rendering his decision. The failure to diagnose an existing pregnancy is, to say the least, an extremely mortifying mistake.

¹ John F. Moran, M. D., Washington, D. C., Jour. A. M. A., June 12, 1909.

¹ R. N. Duffy, A. B., M. D., Charlotte Med. Jour., June, 1909.

TREATMENT.

Hertzl has recently called attention to a new sign of pregnancy, reported by Halban, which may prove useful in some of these difficult cases. This consists in *Hypertrichosis*. It manifests itself not only by an abundant growth of hair in the regions of the body ordinarily so covered, but by its development in unusual situations and by the development of lanugo hair over the remainder of the body.

I have seen a case in which this condition is especially well marked. There is in this case, a primipara aged 26 years, a much more abundant growth of hair in the usual situations. In addition, there is quite a marked growth extending from the symphysis pubis to the xiphoid along the linea alba. This particular growth seems in this case to have taken the place of the pigmentation which is so often seen in pregnancy along this line. There is also quite a marked growth of hair on the face, several long hairs being evident about the chin. The patient states that the presence of hair in both of the above mentioned situations has only become evident in her since the onset of pregnancy. The entire body has also recently become covered with a well marked growth of lanugo hairs.

This hypertrichosis develops early in pregnancy and is very well marked by the third month. It is supposed to result from the direct action of the placental substances as there is reason to believe that these substances may stimulate the growth of hair when administered to animals in the nonpregnant condition, Hertzl having gotten well marked increase of growth in nonpregnant dogs after the injection of placental extracts.

The condition is an extremely interesting one and it is hoped that this report may lead to further observations on the subject.

As suggested by Dr. E. P. Davis, discomfort from silk or catgut ligatures in perineal operations may be prevented by bringing the ends of the suture within the vagina. The stitches can be gathered and held in place by a superficial stitch.—*Int. Jnl. of Surg.*

The Treatment of Pruritus¹.— Having made the diagnosis of scabies or of pediculosis, the treatment is aimed at the cause of the disease, and the well-known applications for these complaints generally quickly remove this troublesome symptom. In scabies, however, a good deal of itching may be complained of even after the disease is cured. This is generally speedily removed by a mild tar lotion. The treatment of eczema need not be entered into here. In lichen planus and urticaria the same applications are useful as in pruritus from other causes. In pruritus dependent upon the disturbance of the digestive functions the bowels must be regulated and careful attention given to the diet. Alcohol, coffee, and any particular kind of food which has been found to disagree must be avoided. Appropriate treatment for diabetes and albuminuria will generally relieve the itching which occurs in these conditions. Cardiac cases find relief from small doses of digitalis.

There are certain empirical remedies which have been found useful in obstinate cases, or as temporary measures in all cases. These are quinine in large doses; antipyrin, in doses of gr. v., gradually increased; pilocarpin, gr. 1-16 to 1-10, by the mouth when the itching is most troublesome. The good effect of this remedy is often very striking. Cannabis indica is recommended in the pruritus of old people, in doses of 5 to 20 m. well diluted three times a day, after food.

In all cases local applications are useful, and the list of such applications is a long one. Among the most useful are lotions containing liquor picis carbonis (ʒj. ad ʒx.), acidum carbolicum (mxl. ad ʒx.), sanitas (ʒss. ad ʒx.). Alkaline lotions: bicarbonate of soda or borax ʒij. to ʒx., with or without a few drops of dilute hydrocyanic acid; lotions containing a powder in suspension, oxide of zinc, calamine, talc. Or a powder may be suspended in the tar or alkaline lotion. Sometimes cold sponging with vinegar and water, or with alcohol and ether, followed by powdering with starch powder, gives

¹ The Hospital, June 5, 1909.

relief. Lotions may be conveniently applied by means of a spray. A lotion of perchloride of mercury (gr. v. ad x. ad 5x.) is cleanly and odorless. It is useful to bear in mind several prescriptions, for often one relieves where another fails.

Tarsalgia¹.— Pain in the heel, although by no means a rare affection, has been neglected by the majority of textbooks, and yet it is very tenacious and rebellious to all medical treatment, and the patients suffering from this affection get discouraged and drag out a painful existence, for the infirmity, although presenting no external signs, deprives them almost completely of the power of locomotion, walking being so painful.

Vincent of Algiers recommended somewhat recently a very simple surgical treatment of the affection.

The aetiology of tarsalgia is somewhat varied: this malady, which may attack one foot, but more frequently the two feet, was noticed for the first time as far back as 1785 by Swediaur, who ascribed it to blennorrhagia, and in reality this is a frequent cause. Rheumatism, and sometimes gout, have produced it, and perhaps certain infectious diseases. But there is another cause which has been overlooked, viz., traumatism.

According to Dr. Vidal, tarsalgia may be divided into three classes: Inflammation of the serous bursa under the heel; osteitis of the os calcis, accompanied by hyperostosis.

In 13 cases observed by Jacquet, the presence of osteo-fibrous rheumatism of blennorrhagic origin with a certain degree of deformity of the bone was noticed.

Bonnet relates the case of a patient who suffered from excessive pain in the two heels after an attack of blennorrhagia. Radiography revealed the presence of a small bony excrescence under the aponeurosis of each heel.

The third class comprises a fibrous and neurotic form of tarsalgia without deformity which may be produced by the action of certain toxins secreted by infectious agents or by irritation provoked by chronic contusion, as might be observed in subjects whose profession or trade necessitates long

standing, by which the adipose cushion of the heel is mechanically compressed or, still better, by a fall on the feet. It is in this last group that Vincent's operation succeeds. A large incision is made down to the os calcis through the tissues of the heel, curettage of the fibro-adipose tissue suppressing the fibrous network in which the nerve filaments are strangulated; if the bursa is found to be inflamed, it is removed.

The second class seems to be amenable to medical treatment: rest in bed, massage of the painful region, turpentine baths, ignipuncture down the back.

The turpentine bath recommended by Balzar is as follows:—

Black soap emulsion) }
Ess. of turpentine } aa 6 oz.

However, if improvement was slow to manifest itself, an operation (curettage of the bone) should be tried.

Skin Grafting¹.— Morrow sums up his very practical paper as follows:

First, graft only on a freshly cut, aseptic surface, or on healthy granulation tissue; without curetting or otherwise disturbing the surface.

Second, avoid the use of strong antiseptic solutions on the graft or on the denuded area directly before or at the time of grafting.

Third, take grafts from the individual to be grafted.

Fourth, spread the grafts directly on the denuded area, and see that the entire surface is covered.

Fifth, a plain gauze dressing, if properly applied, meets all requirements, and is the simplest and most satisfactory to use.

Tabes Dorsalis².— Denslow follows his investigations of tabes and says that further experience and study convinces him of the following.

1. That peripheral irritation can produce pathological change in the central nervous system by creating continuous nerve impulses which exhaust the substance of its nerve centres.

¹ N. C. Morrow, M. D., Altamount, Kan., Jour. of the Kan. State Med. Soc., May, 1909.

² Le Grand Denslow, M. D., Annals of Surgery, June, 1909.

¹ Medical Press and Circular, June 2, 1909.

2. That the peripheral nerve degenerations of tabes are probably due to the same impulses carried on past the central system expending its force upon the points of greatest vulnerability or least resistance.

3. That symptoms occur in certain cases of tabes with a severity out of all proportion to the actual pathological change that has taken place in the nerve centres, and that such symptoms are caused by the initial change creating a zone or aura of irritability beyond such change, which extends to the cerebrum, cerebellum, and sympathetic, and at times appears to cover almost the entire nervous system, including that of nutrition.

4. That removal of this causal irritation resulting in recovery from such grave symptoms, as loss of balance, ataxia, incontinence of urine and fæces, anæsthesia and hyperæsthesia, etc., would appear to indicate the existence of such zone of functional irritability beyond the actual pathological change.

Denslow further says that there appears to have been much misconception as to what he claims for his treatment of tabes. Any permanent pathological changes that may have taken place in the spinal column or other portions of the nervous system are of course irreparable, and in that sense a cure is out of the question, but where a train of symptoms is undoubtedly due to a continued irritation of these lesions, and this irritation is stopped by removal of the causal peripheral irritation to the extent of relieving the patient permanently of the train of symptoms, such as pain, incontinence of urine and fæces, balance, gait and sensations restored, it would seem as if, so far as the patient is concerned, he has obtained what he sought—relief from his troubles. Practically he is cured; pathologically he is not.

The Treatment of Boils¹.— Jackson outlines the following treatment which he says was taught him by Dr. George H. Fox. All that is necessary is a small piece of stick sharpened to a fine point, a little absorbent cotton, a 95 per cent. solution of carbolic acid, and a 5 or 10 per cent. ointment of salicylic acid. As soon as the

boil has pointed, and it has usually done so when the patient comes to us, a small bit of the cotton is wound about the pointed stick, dipped in the carbolic acid, and bored into the softened point of the boil. This gives the pus a chance to escape and thoroughly disinfests the cavity of the boil. The boil is not to be squeezed. The surface of the skin in the neighborhood of the boil is then washed over with peroxide of hydrogen, or a solution of bichloride of mercury, 1 in 1,000, and the salicylic acid ointment spread on old washed cotton or linen cloth, or several thicknesses of gauze, laid over the boil and the adjacent region. That is the end of that boil, as a rule. If it is a very large boil, the operation may have to be repeated the next day. The ointment is to be kept constantly on the affected part for a week. Of course, a few new boils may appear for a few days in the region, the result of the infection of the skin follicles before this treatment was instituted. They are to be treated in the same way, and a cure will soon be attained.

If a patient comes to us before the boil has pointed it may be aborted by injecting into it a drop or two of a 5 to 10 per cent. solution of carbolic acid, or touching its top with 95 per cent. carbolic acid, while the above-mentioned salicylic acid ointment is used as a dressing.

DIETETICS AND HYGIENE.

Nuts as Food¹.— Nuts have a much higher nutritive value than fruits. Some varieties, as almonds and peanuts, furnish quite a large amount of proteid and have the advantage of supplying a large amount of carbohydrate and fat at the same time.

Peanuts are used a great deal as food in the United States. Strictly speaking, they are the fruit of a leguminous plant closely related to the pea or bean. They contain about 30 per cent. proteid, 42 per cent. fat, and 18 per cent. carbohydrate.

Chestnuts have a large amount of carbohydrate, mostly starch. They differ from other nuts in that they contain much less oil and proteid. In France they are used extensively as food by the poor. The

¹ Geo. T. Jackson, M. D., N. Y. Am. Jour. of the Medical Sciences, June, 1909.

¹ Edna Burt, Nurses Jour. of the Pacific Coast, June, 1909.

nuts are prepared in various ways, as steamed, boiled, roasted, and sometimes ground to a flour. This flour, when mixed with water and baked, makes a sweet and nutritious cake. The coarsely ground nuts are used for cereal. In Korea the chestnut is used as we do the potato,—boiled, baked, and roasted with meat. In our own country they are used in making nut candy, in stuffing for fowls, and for roasting.

If nuts are eaten at the end of a hearty meal, after the appetite has been satisfied, they are not well digested. For complete digestion they tax the digestive juices as much as other foods containing so much nutrition. If nuts are used as a substitute for a part or all of the meat of the meal there is less difficulty as to their digestion. They must be thoroughly masticated in order to be digested. Nut meals and pastes are in finely divided particles, and so are in condition to be acted upon readily by digestive juices.

The Dietetic Uses of Water¹.—Water has no part in the digestion which takes place in the mouth. Therefore, says Ward, it should not be put into the mouth at the same time that food is undergoing mastication and insalivation.

In the stomach and intestines, a very different condition exists. Here the "greatest solvent"—water—is needed to perform two duties. (1) To penetrate and dissolve as far as possible all foodstuffs present in the stomach, except the fats and oils; (2) to act as the carrying agent for the gastric juice, bringing it to every particle of food therein. The enzymes of the gastric juice are not rendered less active by moderate dilution, usually up to a hundred times at least. It is a great drain upon the system to make the stomach of a person who has wilfully, or because of neglect, taken insufficient water into the system, secrete from the walls of their stomach and from the plasma of the blood, enough fluid to carry on the process of gastric digestion. Where this over

action of the stomach is required for some time, the efficiency of gastric digestion is greatly impaired, because, either the secretion of less hydrochloric acid and pepsin, or hyperchlorhydria with a decrease of pepsin supervenes. Extra work is also thrown upon the intestinal secretions which do not long measure up to the deficiency of the gastric digestion.

In the small intestine, the presence of a good supply of water in the chyme as it comes from the stomach is absolutely required for the direct and thorough action of the enzymes of the pancreatic fluid to complete the digestion started in the mouth and stomach. Here in the presence of plenty of water, the trypsin completes the digestion of the proteids and albumoses, dissolves any remaining albuminous capsules surrounding the fat globules, which are then saponified by the steapsin, while the amyllopsin converts any undigested starches into sugar.

If this part of digestion is interfered with because of an insufficient watery element, the absorption of the chyle through the villi of the small intestine is greatly reduced, leaving a much greater amount of refuse matter to be worked upon by the bacteria present, with the result that fermentation goes on to an abnormal extent, with the formation of gas therefrom, to the annoyance of the patient, to say nothing of the low grade toxemias which are produced.

At each meal, from one to two glasses of water (never ice water) should be taken, either distributed along between courses, when there is no food in the mouth, or taken slowly by sipping, after the completion of the meal. The object being to have the water and the food in the stomach at the same time.

One or two glasses of pleasantly cool water should be taken upon rising in the morning a half hour before breakfast. Hot water is not to be taken at this time, unless for some special purpose, as its presence in the stomach causes dilatation of the gastric vessels and consequent stimulation which should be left for the breakfast to produce.

One or two glasses of cool water should be taken between meals and before retiring.

¹ R. F. Ward, M. D., N. Y. Dietetic and Hygiene Gazette, June, 1909.

GENERAL TOPICS.

The Future of Medicine is in the Hands of the Regular Medical Profession¹.—

The great glorious future of medicine is in the hands of the regular medical profession, says Robinson. Regular medicine is not what it was a hundred or fifty years ago. We have broken the chains of authority, we no longer follow blindly the dicta of leaders, we investigate and analyze all statements regardless from what source they may come, heterodox opinions are now given space in almost all our journals, and what is of the utmost importance, in the profession itself there are thinking and fearless critics who are not afraid to point out our weaknesses, to ridicule our foibles and to guide us to the right path. And let us remember that all the accessory aids, which are required for the progress of medicine, i. e., the microscope, the bacteriologic laboratory, the physiologic laboratory, the chemical laboratory, all the physical instruments of precision, are in the hands of the regular profession and not in the hands of the quacks. And let us remember that every discovery of any importance within the past half or three-quarters of a century—*anesthesia*, *antiseptics* and *asepsis*, *diphtheria*, *antitoxin*, the *x-ray*, *Finsen light*, *radium*, *antimeningitis serum*, the role of the mosquito in the transmission of *malaria* and *yellow fever* (a discovery which alone is worth billions of dollars to the human race), the isolation of the active principle of the *suprarenal gland*, the introduction of *cystoscopy*, the discovery of the *tubercle bacillus*, the *gonococcus*, the *spirochaeta pallida*—in short every discovery of importance either in sanitation, prophylaxis, medical and surgical treatment or in diagnosis of disease, has come from the hands of the regular medical profession or those directly connected with it. And let us also remember that the requirements for entering upon a medical career are becoming higher and stricter, the preliminary education is of a higher character and the course itself is longer and better in every respect.

Nil desperandum. The future of medicine is in the hands of the regular medical profession, and we are tolerant enough to

take in everybody who is sincerely desirous of practising scientific medicine, even if he happened to graduate from a sectarian college. But we do not want ignorant and presumptuous quacks.

The Relation of the Physician to Public Health¹.—

In the public health system of the United States, combining the national, state and local forces, the physician in private practice according to Wyman is an important factor. Indeed, he is the first unit, in that on him devolves a duty of reporting the facts that naturally first come under his observation. He has a direct responsibility to the state, in giving the notifications and making the reports required. He is the first to see and know the conditions and diseases which, at first local, may become afterward state or national in their importance. He should loyally support his state and local board of health.

The Growth of Cancer Mortality.—

According to Dr. John A. McGlinn in an interesting paper before the Philadelphia County Medical Society, in the decade from 1890 to 1900 cancer showed an increase of 12 per 100,000 population. Statistics show that cancer has increased in the United States from 53 per 100,000 population in 1890 to 70.8 in 1906. Statistics also show increases for all countries. From 1901 to 1906 increases were shown in cancer of stomach and liver 1.8 per cent.; mouth, 0.4 per cent.; intestines, 0.6 per cent.; skin, 0.1 per cent., and decrease in female genitalia 0.4 per cent.; breast, 0.1 per cent., and other unspecified organs 2.4 per cent. In England one out of 11 and one woman out of 8 over 35 years of age die of cancer. In the same country more women at all ages die of cancer than of phthisis. In the registration area of the United States for all ages one man out of 32 and one woman out of 11 die of cancer. After the age of 35 one man out of 17 and one woman out of 9 die of cancer. During this period more women die in the United States of cancer than phthisis. The age of greatest frequency is between 50 and 54, when one man in 14, and one woman in 5 die of cancer. If cancer had been cured in 1906 it would

¹ Editorial Critic and Guide, May, 1909.

¹ Walter Wyman, M. D., Jour. A. M. A., June 12, 1909.

have shown a saving of life of 373,574 years, or a total saving of earning capacity of \$224,144,400. Out of the total population of the registration area of males and females over 35 years of age in 1906 there have died, or will die of cancer 281,909 men and 518,185 women. The combined death rate for all surgical conditions exclusive of cancer, in 1906 was 161.5. Cancer death rate was 70.8, so that practically one-third of deaths from all surgical conditions were due to cancer. The combined death rate from all preventable diseases was but 6.4 higher than cancer. Cancer of the stomach in males occurs in 43.06 per cent. of all cases and in females in 24.47 per cent. Cancer of the uterus occurs in 27.68 per cent. of all women. Eliminating the organs peculiar to the sexes, cancer is more frequent in men than in women. The most frequent time of occurrence in males is between 50 and 75 years and in females between 45 and 70 years. The greatest factor in the consideration of age, influence of the conjugal state, occupation, race and location of the disease is the average age of the people in certain states of social life and occupation and the question of maturity in reference to various races.

THERAPEUTIC NOTES.

Carbon Dioxide Snow as an Anesthetic Cauterant¹.—In an article of great practical value and interest Gottheil shows the following advantages of CO₂.

1. Obtainability. Carbon dioxide is a commercial product extensively used for soda-water fountains in drug and candy stores. A number of firms supply it in steel-pressure cylinders, and it is readily gotten anywhere. It is not even necessary to keep it on hand; it can be drawn at the drug store as required in a towel or chamois skin; it can be kept for hours and carried to where it is needed. In fact, the druggist could draw it on prescription and send it to the office or the patient's home.

2. Cheapness. A 20-gallon tank costs, delivered, between \$2 and \$3, and with careful use will last a long time. The number of "drawings" possibly depends partly, of course, on the waste each time,

and partly on the varying amount of gas in individual cylinders. But it is at least 30, and it may be over 100. The cost of individual treatments is insignificant, and the only apparatus required is a towel and a couple of roller bandages.

3. Applicability. The gas can be drawn as a solid, varying in density from a loose snow to a more or less brittle chalk-like mass. The snow can be moulded into shape with the protected hand, or, by means of glass or metal tubes with pistons, into cylinders or any desired shape. But I invariably have it drawn hard, and whittle it down. At one time a broad, flat freezing surface, perhaps curved to fit depressions and covering a square inch, is required; at another, a fine, long point to attack a minute lesion is needed. Either one is readily gotten with an ordinary penknife.

Neuralgia, Neuritis and Reflex Pains.—

In cases of neuralgia, neuritis and reflex pains, a 1 to 1,000 adrenalin ointment, applied over the nerve involved, will often (*The Chicago Clinic*) give great relief. From one to two minims of the ointment should be used over the nerve by inunction, except in case of the sciatic nerve, where three to four minims may be used.

Bromidrosis.—Rarely a patient will be met who suffers from bromidrosis—stinking sweat. This powder (*Am. Jnl. of Clin. Med.*) will be found quite effective:

R Bismuth subnitrate, $\bar{\text{ss}}$ j.

Potass. permanganate, $\bar{\text{ss}}$ ss.

Rice powder, $\bar{\text{ss}}$ ij.

Dust well in the axillæ and groins with a piece of cotton, twice daily; and sprinkle liberally on the feet, in the stockings and in the shoes.

TO APPLY COLLODION.—Collodion, commonly used to seal a puncture wound, as after aspiration, will not adhere if the spot is wet or bleeding. To obviate this, pinch up the skin, wipe it dry, apply the collodion, and continue the compression a minute or so until the collodion has begun to contract.—*The Dietetic and Hygienic Gazette*.

¹ W. T. Gottheil, M. D., N. Y.. *Int. Jour. of Surgery*, Mar., 1909.

American Medicine

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PUBLISHED MONTHLY BY THE AMERICAN-MEDICAL PUBLISHING COMPANY.

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Complete Series, Vol. XV. No. 7.
New Series, Vol. IV, No. 7

JULY, 1909.

\$1.00 Yearly
In Advance.

Employment for the aged presents a many sided problem. That there has been an unfortunate and unreasonable tendency to eliminate workers in many fields of endeavor soon after the fifty year mark was passed, is all too true. Several causes have contributed to this deplorable shelving of the man of fifty and over, not the least prominent of which has been the current belief that the push, hustle and aggressiveness of young men were indispensable factors for the success of any growing business. As a consequence, young men have grown bolder, and with audacious confidence have aspired to, and assumed positions of trust whether they were fitted to the requirements or not. The spirit of the times has been auspicious for such self-confidence—or presumption—and many a position has been fitted to some young, aggressive man, rather than the man being fitted to the position. This hurly-burly age of rapid advance, so rapid and sweeping that mistakes and minor failures have been overlooked in the inevitable successes that countless enterprises have been swept on to, has certainly given opportunity for full play of the attributes of youth—optimism, enthusiasm, courage and impulsiveness. It has been the young man's day and the trend of affairs, in making the most of the qualifications of youth, has too often overlooked the more solid virtues and abilities of mature age.

Youth has its limitations no less than its possibilities. No man reaches the zenith of his intelligence and judgment under fifty years. With this so true, it cannot be doubted that many enterprises have been jeopardized and their solidarity weakened by reason of depending too much on men lacking in the mature judgment and mental poise that years alone can confer. In the dawn of a new era of American economics it is certain that sober thought will insist that mature men—and old men—shall guide and direct us. In every branch of endeavor—medicine particularly—years spell experience, development and judgment. Let us respect age, and for the greatest good of all constantly avail ourselves of the knowledge and wisdom that the years bring.

Age is a valuable asset and if the people only knew it, the best clerks, the best servants, the best employees all along the line are individuals who have reached fifty years. They may not have the aggressiveness and the optimism of the young. But they will have a conservatism, a sound judgment and a fidelity that is worth everything. Employees of middle age feel their responsibilities and are trustworthy accordingly. They are dependable and their ambition lies in service and efficiency. No movement of recent years deserves greater commendation and support than that of the *New York Times* to secure proper recog-

dition for the worker of advancing years. Not alone is this movement commendable because of its broad humanitarianism but also by reason of its justice and economic wisdom. It will set the people to thinking, and "lo, the thing is done!"

A word of appreciation is due to the many medical men who during the past few months have gone out of their way to write or say something of an encouraging character concerning AMERICAN MEDICINE. We would not believe that so many would stop and take the time in the midst of busy lives to commend the work and efforts of their colleagues if we did not have the generous pile of letters right at hand. Could the writers be with us as we peruse them we fear that they would see a suspicious glistening in our eyes and observe a peculiar note in our voices. It seems too good to be true. We have worked and tried, and if our fellows think we have done fairly well, and take the bother to say so, we are amply paid for all our doubts, worries and misgivings. Thank you, friends, you strengthen our hands, cheer our hopes and fortify our courage by your kind words. We are going on doing our best and if we succeed, and add ever so little to the value and usefulness of AMERICAN MEDICINE it will be due above all things to the admirable support and friendship that has been ours.

There is a real fraternity among medical men. Many would like to have the world believe otherwise. Every now and then one hears some blatant critic air his views to the effect that medical men have no use for each other and take their chief delight in disagreeing or belittling each other's work or skill. Nothing could be

further from the truth. It is true doctors do disagree. Progress and the nature of their work demands that they should. But in great vital matters of science or ethics no body of men on earth are so thoroughly in accord. There is some skepticism which assuredly no one would abolish as it offers a safe check to too great enthusiasm and optimism. Likewise there is a sturdy conservatism that constantly makes its influence felt in medical circles. This too, fulfils a valuable mission in counteracting human tendencies to radicalism. On the whole, however, in each of its epochs the science of medicine has struck a fair balance, always carrying the truth a little nearer to the goal of accuracy. Withal, while honestly competing with each other, every medical man has been ready to help his colleagues when help was sought in the right way. Whenever an honorable medical man has been unjustly attacked has he ever lacked colleagues to stand by him?

No class of men meet in conference so often for comparing views and opinions, and it is safe to say that the members of no other profession are so intimately familiar in a personal sense with each other and those who are rightfully looked upon as leaders. Summed up briefly, every medical man realizes that he is one of a great band of earnest workers in a field that requires a true fellowship. For the greatest possible efficiency each and every one of us is dependent on each other. In the highest sense, therefore, we are brothers associated together in a common service, a service that by its very nature creates a common bond of aspiration and effort. Individual instances of hatred, injury and dissension are frequent enough, without a

doubt, but we insist these are the exception, and the average medical man has genuine regard and respect for his fellow workers. There is a true medical fraternity, and Æsculapius is its Prophet!

The general practitioner after all is the one who derives the most in every way from the practice of medicine. Unfortunately, every student and young graduate seeks to take up a specialty at the earliest possible moment. If they go into general practice it is only because of exigency or as a stepping stone. As a consequence, everything that does not lead to the chosen specialty is neglected or slighted. The pity of all this is seldom realized, and few understand how the world is being cheated out of what it really needs. As a matter of fact, civilized communities have much greater need for good, all round general practitioners of medicine than they have for specialists. This is in no wise intended as a reflection or criticism of those men of maturity who prefer to narrow and concentrate their field of practice. The growth of knowledge almost makes it essential that some should do so in order to reach the highest possible efficiency. But there is no sense nor reason why every medical man should limit his field of activity to some organ or class of diseases, or that the medical profession should ultimately become a profession of specialists. The world needs general practitioners, men of broad training and experience, who can accurately diagnosticate and successfully treat the great majority of the diseases that afflict mankind. Such men will know when to call on the specialist, who will fill a definite place as a consultant and expert. If conditions go on as they seem to be tending, however, a patient will soon have to

visit many specialists to find out what ails him. If he is lucky he may strike the specialist of the disease from which he is suffering the first thing, but like as not, he may run the whole gamut of doctors before he finds one "fitted" to his particular disease. Under such a system, the patient takes many more chances from delay and indifferent treatment, than he would to place himself in the hands of a good general practitioner who could diagnosticate his malady, give preliminary treatment along accepted lines and in due time, if necessary, call in special counsel. Thus the patient would obtain far better and earlier treatment at probably much less expense, and the science of medicine would be benefited proportionately.

There is much honor and a world of opportunity in the general practice of medicine. It means a life of hard work for those who win success, but there is an indescribable satisfaction that only "the family doctor" ever feels. It means something to come into people's lives as the general practitioner does, and there is a personal exaltation derived from the trusts created that compensate for many of the hard things encountered. Riches and wealth may not be for the country doctor or the general practitioner. But there is a good comfortable competency year in and year out that judging from personal observation is equal, if not superior, to the income of many a so-called specialist. Then again, to wrestle with pneumonia and typhoid, to meet the various surgical emergencies, to cope with placenta previa or puerperal eclampsia, to meet the hundred and one other demands of a physician's life, and to successfully bring a patient through, saving to a loving family, a mother, father, daughter or son,

of itself creates a great satisfaction equal to any that the specialist can ever experience.

No, the medical man who takes up a specialty often makes a great sacrifice of much that gives to the practice of medicine its principal charm. If there was any one message that we could more forcefully give than another to the young graduate it would be "go into general practice and strive to become the best possible general practitioner of medicine. If fate intends you to be a specialist, time will bring it about. Be a real family physician for in this direction lies some profit, much honor and best of all an unlimited opportunity for useful, result bringing work." This comes very close to the apotheosis of human existence.

The disappearing fad of woolen underclothing is another of those curious reversals of professional opinion which have been the history of medicine and hygiene. Man has always used an absorbent vegetable fiber next to his skin, except in very cold climates where he had neither cotton or flannel and depended upon the skins of wild animals. Two or three generations ago a veritable mania possessed hygienists to reverse the habits of mankind, and the dogma went forth that health was impossible without woolen undergarments summer and winter. The expense being prohibitive, all kinds of alleged near-wool fabrics were devised, some of which contained so little wool as to be practically cotton. Then to avoid the well known skin irritation due to coarse woolen fibers or even thick hairs, other ingenious inventors devised special fabrics whose high cost made them the fad of the rich—prob-

ably because they were expensive. Some went even a step further and spent small fortunes on silk, under the impression that the higher the cost the greater the efficiency. At the present time there are as many "expert" opinions on the proper material as there are materials, and of course the arguments are mutually destructive.

Animals clothed in wool do not perspire and that is the point to remember in deciding upon the uses of underclothing. The woolen coats of the lower animals, besides their protection from cold, are apparently evolved to prevent external moisture from reaching the skin, which is dry, even if the animal is immersed in water. Our outer garments in winter or damp weather therefore should be of wool to protect from external moisture. All fur bearing animals in lieu of perspiration have special arrangements for cooling off when overheated, but all those which, like man, depend upon the evaporation of perspiration are so built that the hair lies flat and the moisture evaporates at once, but when chilling takes place the erector pili muscles, arrange the hair on end constituting a thick coat which does not transmit heat. Man's underclothing must similarly be capable of quickly absorbing his perspiration when overheated and allowing it to evaporate at once to dry the skin. Only the fat-free vegetable fibers will do this, for the wool is not only reluctant to take up the moisture, but when soaked it dries off too slowly to be of use. After the period of activity the man is clothed in water logged garments whose slow drying chills him when he does not need cooling. He is like a cat which has fallen into the water.

The advantages of cotton underclothing are now being appreciated and we can expect the usual swing of the pendulum of opinion in that direction. Every now and then some tropical expert calls attention to the evil effects of wool and strongly advises cotton for its quick absorption and evaporation, thus keeping the body dry and cool but not chilled. In colder climates we find the same arguments being put forth, for they say the cotton absorbs perspiration, delivers it as vapor at once to the air between the outer and inner garments, keeps the skin dry, and prevents chilling due to a wet skin, while the woolen outer garments prevent the escape of body heat and protect from external moisture in cold foggy weather. If one is bathed in perspiration from extraordinary exertion in cold weather, and must then stand idle awhile, he of course, puts on an extra garment in the short time his underclothing is drying, but he does not need to change his garments as he would if his underclothes were woolen requiring some hours to dry off. This quick drying is found essential by horsemen, who are compelled to use their animals intermittently at high speed. If closely clipped, the moisture evaporates when needed to cool the body and after the exertion is over a blanket protects from cold, but if the long haired coat becomes water logged, it takes so long to dry that the horse is chilled, and a blanket is too warm and prevents evaporation. Clipped horses thus are saved from colds for the same reason that men are who wear cotton underclothing. But a horse which never is put to such exertion as produces excessive perspiration need not be clipped of course, and a man who never exerts himself unduly may not experience the danger of

water logged woolen underclothing. All this seems logical at least.

The vast majority of people do very well with cotton underclothing, while those who are so careful as to keep themselves constantly steamed in wool are often disappointed by their frequent colds. We commend the matter to the profession for more observations, for it may turn out that the poor are really better clothed than the rich—except of course the rich women, who persist in remaining healthy though clothed in flimsy cotton garments in defiance of doctors and male relatives. A dry skin can certainly stand an enormous amount of chilling, as with naked Indians, and though we do not approve the cult of the unclothed, it does seem that we are often overclothed, particularly those who must run in and out of the hot rooms of our dreadfully overheated houses, stores and offices. We certainly are occasionally amazed at the health of men who wear the thinnest kind of cotton underclothing all winter, but perhaps they are sensible after all. At any rate the fad of woolen underclothing seems dying a natural death, but it should not be replaced by any other fad equally expensive. Cheap cotton seems as good and wholesome as the fancy fabrics.

Industrial diseases must be given far more study in America, if public health is to be enhanced in any way near the manner of which modern science is capable. The report of vital statistics of Great Britain, based on the last census, shows many very startling things as to longevity in various callings and the occupation diseases which shorten life. In some lines, such as locomotive firemen and engineers, the average mortality is very low in spite of accidents,

because none but the very robust can enter the cailing, and the reverse is true of general laborers, costermongers, hotel servants and other employments which attract those who through physical or other faults can not make a living at more remunerative labor. Nevertheless, the detailed statistics do show the effect of labor sufficiently to warrant legislative enactments to prevent industrial inefficiency and the large expenses due to avoidable sickness. It is rather remarkable that clergymen, in spite of their poverty—or perhaps by reason of it—live the longest of all. It shows not only the advantages of the simple and sober life, but possibly the superlative benefits of freedom from the injuries due to the fierce struggle for existence. Hard physical labor is not only unnecessary for health, but actually shortens life from the inevitable arterio-sclerosis and cardiac damage. Porters and dock laborers are cut off early but clergymen and gardeners die of old age. We commend these statistics to the governmental authorities who are insisting upon strenuous physical tests in the Army and Navy, for if the figures do not lie, the present system is decreasing the military efficiency of the survivors instead of increasing it, and the daily papers every now and then mention a case which has not survived the strains at all.

The relation of caisson disease to cold weather is asserted by Mr. James Forgie, one of the engineers of the Pennsylvania Railroad tunnels under the Hudson (*Engineering News*, February 28, 1907.) This is an exceedingly interesting and important observation but it is not quite proved to be more than a coincidence. The cases certainly were uncomfortably numerous from January until June, 1906, and remarkably

infrequent from then on to the end of the work, but that diminution may have been due to the greater care in prevention. Yet the figures do seem to show that a “cold snap” was apt to be followed by a little epidemic, and the sequences appear to be too numerous to be mere coincidences. The tunnel temperature was practically constant day and night, and was maintained at about 55° until April, and at 60° or a little above thereafter, so that the increase of cases following a drop in the external temperature is difficult to explain. It has no relation of course to the increased solubility of gases in cold fluids, because the blood temperature is uniform in all weathers.

The Unknown Factor in Caisson Disease.

The atmospheric gases are dissolved in large amounts in the blood when the worker is in the compressed air but the slow decompression of the air-lock permits these to escape through the lungs, silently and harmlessly. Rapid decompression permits them to bubble out anywhere and cause nerve pressures in unyielding places and some of the blood vessels may be actually blocked by a froth. It is quite evident that the time allowed in the lock is occasionally too short but that in warm weather or during a rising temperature either in winter or summer, the residue of gas is able to escape safely through the lungs. This evaporation is checked by an unknown factor during “cold snaps,” and the residue bubbles out when the workman leaves the lock. Perhaps more complete observations as to external barometric readings may show that the temperature of the external atmosphere has nothing to do with the matter at all, but that it is due to a low atmospheric pressure of stormy weather which really necessitated a longer stay in

the lock, as there was a relatively greater decompression on such days.

The only cause of caisson disease, so far as known, is the rapid release of pressure and the bubbling out of the extra gases dissolved in the blood by compressed air. Forgie even shows that an extra two or three pounds per square inch after a period of work at lower pressures causes an epidemic within 48 hours. It is also shown that the longer one stays in the compressed air, the more liable he is to an attack, as though more air had been dissolved in his fluids, requiring a long period for them to find their way to the lungs. Moreover a slow rate of decompression lessened the cases and if two locks are used compelling a walk from one to the other between the two stages of the process, there were fewer cases. Variations in the purity of the air did not seem to have been factors. There were 490 cases or about 6% of the force and many would have died but for prompt recompression under medical care, but sometimes even this did not redissolve the bubbles. Some men seemed to be particularly susceptible. A large number of the men are believed to be markedly alcoholic yet nothing is said as to whether that increased their susceptibility.

A study of blood pressure in compressed air workers has been made by Dr. Harlow Brooks (*New York Medical Record*, May 25, 1907) and shows that the arterial pressure is not varied in the least by such external conditions. The average physician imagines that atmospheric compression increases the blood pressure, though a little thought should have been sufficient to prevent the publication of the many ridiculous theories which have been

put forth on this subject. There is no way for atmospheric pressure to be transferred to the interior of the arteries,—it presses equally on all sides, in and out, and the blood pressure is a matter for the heart and arterioles to manage. Of course the total pressure is increased by compression but the difference between the internal and the external arterial pressure is not varied a particle. Changes in arterial tension therefore have no relation to caisson disease, nor is the opposite state of reduced atmospheric pressure in high altitudes of any consequence. Renal and circulatory diseases of moderate degree, are not necessarily contraindications for either increased or decreased atmospheric pressure, in spite of a library of literature to the contrary. He mentions the evident alcoholism and nephritis of many compressed air workers and the fact that these conditions did not seem to cause any harm.

Thin men are less liable to caisson diseases than the fat, a fact noted for a long time, but the explanation has only recently been given by Dr. Horace M. Vernon (*The Lancet*, Sept. 7, 1907.) It appears that fatty tissues absorb five times as much nitrogen as the blood serum. As the blood supply of fat tissues is very small, there is less chance during decompression for the dissolved gases to be carried to the lungs. These men therefore require much longer time for decompression than the thin men. The thought naturally occurs that in all men both thin and fat, the increased circulation caused by gentle exercise while undergoing decompression would deplete the tissues of extra gases much sooner than if the men rest as at present. It is a suggestion worth trying.

Health in the tropics was recently discussed in the *Philippine Journal of Science* by Dr. Wm. S. Washburn, the head of the Insular Civil Service, and now a civil service commissioner in Washington. The article is so viciously wrong as to deserve the strongest kind of condemnation. Some years ago, the same author published a paper in the *American Journal of the Medical Sciences* in which he took the ground that if a tropical resident lived a sober, decent life he need not get sick and even if he did become infected the climate was so good that he could expect recovery. Such nonsense of course made the life insurance actuaries smile, and their derision was boisterous when it was found out that Dr. Washburn himself got sick and was compelled to leave the tropics to get well. The new article is a desperate attempt to show by statistics that the sickness and death rates of Europeans in hot climates are as low as at home. It is a well known fact that if people get sick in the tropics they do as Dr. Washburn was compelled to do—leave. If they die later, the death is added to the home statistics and deducted from the tropical ones, so that mere figures of this sort are worse than falsehoods. Panama is constantly making people sick, but its vital statistics are better than those of New York City whose sick cannot run away to die. Such papers as Dr. Washburn's give a dangerously false impression, and induce many to go to the tropics who should stay at home. It is a pity that science should be blotted by such contributions. The author is very foolish to think that the Almighty was a fool to make tropical natives different from northern men.

Sanitation in the Philippines is discussed by Dr. Thomas W. Jackson in the *Philippine Journal of Science* of Nov. 1908, and he draws a rather doleful picture of the total lack of progress in the smaller towns. The larger cities where most of the Europeans live, have been vastly improved so that the danger of contracting disease has been enormously reduced, but where the natives reside, the conditions are the same yesterday, today and forever. This was to be expected, for racial habits are not changed in a day or even a millenium. Egyptian peasants live about as they did eight thousand years ago, and eight thousand years hence they will probably still be but little different even if trolley cars go to the pyramids, a railroad runs from Cairo to the Cape of Good Hope and flying machines drop visitors from America. The British have long known the impossibility of forcing sanitation on the Hindu, who persists in dying as his ancestors, and we must learn the same lesson with the Malay. The religion of the Moro compels him to defecate in running water and he thinks it blasphemy to reform his customs, wherein he is a step higher than Americans who also pollute their water courses but will not reform simply from devilishness.

Battleship neurasthenia is being mentioned so often nowadays that we are justified in adding it to the occupation diseases. It has created considerable apprehension not only in our own navy but also in France and Germany, for the cause is not yet known, and prevention is impossible. Dr. Sheldon G. Evans of the Navy has found that many cases are nothing more than intestinal autointoxication from

digestive disturbance., (*The Military Surgeon*, Jan. 1909) but why the modern battleship should be more productive of indigestion than the old fashioned sailing ships is difficult to imagine. Perhaps the officers in the old navies did suffer just as much but their condition was not recognized. They may have been merely labeled "cranks" and due allowance made for them. The anxieties on a modern boat are not a bit greater than they must have been in Nelson's fleets, but are merely of a different kind. Armies, too, both here and in Europe, are furnishing an increasing percentage of cases, possibly due to more accurate diagnoses or perhaps they are so classed, as seems to be the habit too often in civil practice, to conceal ignorance of the real disease which is causing neurasthenic symptoms. The fact of the matter seems to be that military life is a very unnatural one on account of its necessary repressions and restrictions of normal habits. Frequent change is necessary and perhaps we might hear less of battleship neurasthenia if the officers and men were given more chances to get on shore and kick up their heels like a horse does when turned into the pasture. Harness of any kind cannot be worn continuously without causing pressure necrosis, and even if it does not cause ulceration, the outraged nerves protest.

The anti-opium warfare in the Orient has received a serious check from the recently published report of the British Commission appointed in 1907 to investigate the use of the drug in the Malay states. It is rather astonishing that this particular report should have occasioned such wide comment for it presents nothing new. European physicians in the Orient have al-

ways been quite largely of the opinion that opium does comparatively little damage to Asiatics. The phlegmatic nervous system requires far more powerful drugs than the more emotional unstable nervous organization of Europe and Africa. What would be suicidal excess to an American is moderate indulgence to the habituated Chinaman, very few of whom are injured in the long run. These few are held up by clergymen in a most hysterical way, who look upon the exception as the invariable result in all cases. There is even a wide spread professional opinion that the sedative effect is rather beneficial than otherwise. The horror evoked over the tremendous opium consumption in Asia is much overworked and misplaced. Let us keep our own people away from that drug and the more dreadful cocaine and let the Chinaman alone with the things which he finds more or less useful.

The cure of the opium habit presents the same difficulties in Asia as in Europe, but the commission is of the opinion that in the earlier years voluntary abstinence is possible while in the old habitue a cure is impossible, at least nothing short of permanent imprisonment so that the drug is unattainable. A few years ago much was written about the alleged cures produced by the leaves of a certain shrub in India, but it sounded so quackish that no serious attention has been given to it. Though it has been widely tried, mixed with gradually diminishing doses of opium, no permanent cures have been reported so far as literature at hand indicates. The drug was exploited by clergymen and has become a patented secret remedy in England, at least, the proprie-

tors who are trying to get rich on it, say that their remedy is the drug in question, but no one knows whether they are telling the truth and besides there is no evidence as yet that it constitutes a cure. The commissions' opinion as to hopelessness of cure is apparently correct.

The determination of sex has at last been partly explained by Prof. E. B. Wilson of Columbia University (*Science*, Jan. 8, 1909). There has been an enormous amount of research work in this subject, for it is of considerable economic importance in stock breeding to be able to control the sex of the offspring. At one time there was a widespread opinion that some conditions external to the two germ cells influenced them in such manner as to determine the sex of the resulting organism, and scores of hypotheses have been announced by investigators who have imagined that the causes were discovered. The subject has necessarily entered into medical practice, for it is often of much importance, as in the case of royal couples where a male heir might prevent a dreadful civil war of rival claimants to the throne. Wilson now submits proof that the subject is outside the sphere of practical medicine, for he has shown that the internal cell mechanism controlling the process is fundamentally automatic, and that in the long run, by the laws of probabilities the males must equal the females. It is not primarily a response to external conditions, and though they might modify the mechanism, there is no proof that they do.

The cause of sex is of course still undiscovered, for no one has the slightest idea as to how the differences in the germ cells produce one or the other sex, the only step in advance is the knowledge that in the final cell divisions only half the spermatozoons can receive the nuclear element which is known to produce the female organism, and there is no con-

ceivable way in which more or less of them could be made to receive it. This discovery should put an end to the output of bizarre theories from cranks and charlatans, and it fully explains why it has been a favorite field. No matter what is advised, there is sure to be a record of fifty per cent. of successes, and the failures are concealed or forgotten. Under such circumstances any gambler will take the chances of winning. It is quite satisfactory therefore that one form of quackery is definitely shown to be false.

The evils of roller skates are not limited to the collisions so frequently observed between humble pedestrians and the young flying barbarians who are addicted to the roller skate method of locomotion. A physician who has given some thought and attention to the matter asserts that the excessive use of roller skates tends to develop flat foot, faulty development of the foot and leg muscles, and more or less irreparably injures the gait and bodily carriage. When it is considered that any evil influence is exerted in the growing period when muscles, bones and joints are most subject to modifying tendencies, there can be no doubt that the excessive use of roller skates is harmful. Muscles ordinarily brought into play in walking, those of the feet particularly, fall into disuse in roller skating, while other muscles are abnormally developed. The result is more or less malformation of the body, especially of young girls with loss of the normal curves and lines that make the human form lithe and beautiful. Walking promotes such physical beauty and by developing special powers of equilibrium and movement overcomes natural awkwardness. It would seem wise therefore, that physicians and parents should carefully consider the roller skating craze and see that the young and undeveloped are not allowed to carry it to excess.

ORIGINAL ARTICLES.

SOME REMARKS CONCERNING THE ABSTRACTS OF MEDICAL ARTICLES.*

BY

HEINRICH STERN, M. D.

Editor of the Archives of Diagnosis, New York.

Excepting those medical journalists who have no serious opinion upon the subject, it is safe to state that there are as many conceptions of an abstract of a medical article as there are medical editors. Some time ago the man at the helm of a well-known publication pointed out to me that to abstract is to steal without being noticed (he meant by the subscribers) and to take over the entire article, skin, feathers and all, with possibly slight alterations in the introductory and concluding paragraphs. Another purveyor of literary food, who is known for his urbanity, when interrogated by me about his idea of abstracts, blurted out: "An abstract, if you please, is neither more nor less than any reference to a printed argument." These two editors expressed about the view-extremes as far as abstracts are concerned; one quarter advocates total appropriation, the other considers even the merest allusion sufficient. Between these extremes there prevail all shades of opinions in respect to abstracts. Editors, in compliance with their individual standards, tastes and proclivities are wont to look at them as either condensations, summaries, excerpts, digests, gleanings, selections, abbreviations, synopses, outlines, or what not more, and even each of these conceptions is variously defined by the various editorial supervisors.

Of course, many journals have their own type of readers, and for argument's sake I will allow that the majority of subscribers to certain medical periodicals have had the same educational advantages, have similar professional experiences and needs, and possess a like desire to keep abreast of the times. Now, if these premises do exist, would it not be logical that the abstracts be prepared in a uniform manner, and that, irrespective of their form and character, they would convey to the peruser the sum and substance of an essay or article? And again, would it not be reasonable to expect that a matter once taken up in an abstract, be again considered in abstract form in subsequent issues of the periodical, if new literature pertaining to the point at issue has appeared meanwhile?

True enough, there are a few American medical publications, some weeklies and some which are devoted to the interests of a speciality, which bring in the form of abstracts nearly everything which comes along,—the weeklies with very little discrimination, the special journals by barring only the material emanating from a confrère who is persona non grata with one or the other of the editorial staff. But leave well enough alone, for the few journals just alluded to have abstract departments which appear to be regulated on certain broad lines. This is, however, not the case with the great majority of medical periodicals published in this country. Their abstracts, as a whole, neither reflect the real progress in medical thought and art, nor are they gotten up or collected with any other end in view than that of filling the pages. They are not prepared in accordance with a uniform standard and for a specific clientele, so

*Read at the meeting of the American Medical Editors Association, Atlantic City, June 7, 1909.

often referred to as "the class of readers reached by us," for some of these abstracts are intelligible to the specialist only, while others are rehashes fit for the layman's understanding, and not a few are covered with the cobwebs of antiquity.

What then is the logical conclusion? There is only one, namely,—that not sufficient attention is bestowed upon the abstract section of their publications by the gross of medical editors. The abstracts are procured in a haphazard way; a number of journals have them prepared by impractical, incompetent, underpaid, hectic doctorlings; others (some of which I held in high regard before I entered the editorial field) swell their bowels "in sudore vultus alieni", in the sweat of the face of another. But do they, at least pilfer with discrimination? Do they separate the chaff from the wheat, or do they even pretend to know "a hawk from a handsaw?"

The disharmonious conglomeration of stolen goods is spread before the gullible medical public month after month; their source is never revealed, for if it were, if due credit were given the periodical that has brought the original excerpt, the matter would not be one of theft but a perfectly legitimate and well established journalistic custom. As a rule it is from the most recently arrived exchanges that the abstracts are removed with pocket knife or scissors. And these exchanges, in all likelihood, have clipped their abstracts from other periodicals, and thus the case becomes one of "the hand that shook the hand of John L. Sullivan."

Is it not rather comical to behold a journal published in a dark corner of the hinterland parade with unsigned and uncredited abstracts—real

editorial work, if you please—purporting to come from the Annales de l'Institut Pasteur, the Archiv für experimentelle Pathologie und Pharmakologie, the Comptes rendus de l'Académie, Hofmeister's Beiträge zur chemischen Physiologie, etc., when you know that not a single copy of these ultra-scientific publications has ever come nearer than 500, nay 1,000 miles of the erudite editor's seat; when you are positive that neither he nor any one connected with his sheet has sufficient knowledge of either French or German to translate, digest and summarize a matter of which, at the best, he has but a very faint intimation.

Indeed, is it not jarring when you see one of your abstracts, in the preparation of which you had spent a number of hours in the large library of the medical centre, republished in another journal without receiving credit for yourself or your publication? The abstraction of abstracts without acknowledging the source whence derived is larceny, and it remains larceny no matter how plausible an excuse is made for it. Yet, I pity the editorial souls that have sunk so deeply. But after the words of the immortal Virgil let us act, "*Ignavum fucos pecus a praeseptibus arcent.*" "Drive from their hives the drones, a lazy race."

And now back to our theme, the abstract itself. What would be its definition from my personal standpoint? An abstract should be the condensation of all or portion of that which is substantially new in an article, or novel in the interpretation of already known facts. It should therefore record a novation of some kind.

This conception of an abstract presupposes at once that the director of the abstract department of a medical publica-

tion should be an important member of its editorial board. He must be well informed of the general medical knowledge of the times and must at least be able to understand French and German unless there be efficient translators connected with the editorial staff. He should be well versed in the current medical literature, and, in fact, in the literature of the past four or five years, and should know at a glance whether an article is based on personal experience, or whether it is a compilation, paraphrase or plagiarism. He should be able to rend asunder verbosity and facts, the old and the new, and to set forth such facts and that which is new in direct and plain language. He should adhere to a certain standard of uniformity and keep before the reader the later developments of a subject discussed in the form of abstracts on previous occasions. And finally, he should display enough courage to refrain from abstracting the article of the big professor or a personal friend, if the article does not merit it, and to reject, if they do not come up to his standard, the abstracts furnished gratuitously by the renowned and influential specialists whose full names, like chesty drum-majors, parade at the head of their respective divisions.

Many publishers of medical journals do not appreciate how highly the average subscriber values the good abstracts. They still seem to think "where none admire, it is useless to excel." Let them put a competent man in charge of the abstract department and they will see how quickly the delinquent subscriber remits his dollar or two.

More than ninety per cent. of all articles as they appear in the international medical press are compilations or paraphrases.

While the usefulness of a good compilation cannot be denied, the fact that it itself is composed of excerpts and condensations should *a priori* preclude its renewed abstraction. The limited space in the abstract department is needed for the recording of novel experiences, facts and interpretations. The great majority of case-reports are compilations. They bring nothing original except, perhaps, the case-report itself (and hundreds of similar cases may already be on record) which usually takes up but a comparatively small fraction of the article ostensibly devoted to it. The great bulk of it is more or less unnecessary rehash taken from previous articles on the subject or from text-books. This ballast which is to lend weight to a flimsy case-report is unmitigated chaff as far as the abstract is concerned. And it is just this frippery, occluding so many pages of the average abstract section, which is often shown off as the real thing in the progress of medicine. If there seems to be something of unusual interest in a case-report, it may, if necessary, be republished in its entirety, but the frills and feathers have no business whatsoever in a seriously conducted abstract department.

Paraphrases, like good compilations, often serve a distinct purpose. Generally speaking they set forth a certain subject in a clearer and more impressive manner than did the original article thereon, but they do not in themselves express a new truth. As a matter of fact every maker of an abstract should be an efficient paraphraser; in other words, he should be able by clarification of the language and improvement of the form to convey the author's ideas and conclusions in a better way than the persual of the original paper will af-

ford. Efficiency in paraphrasis cannot be expected in a journeyman-doctorling, but the latter knows, as a general rule, a good thing when he sees it, and he abstracts with the scissors a part or the entire paraphrase made by another, and thus the original paraphraser advances often to the class of the original thinkers and investigators. Smith, for instance, paraphrases Jones' work which has been published in an obscure volume of transactions. Smith's paraphrase, which may or may not directly refer to Jones' original investigations, is perfect in form and expression, and appears in a prominent periodical. The man with the scissors, of course, only knows Smith, and Smith becomes the originator, the great man. But poor Jones, alas, sinks into oblivion.

While over ninety per cent. of all medical articles are compilations or paraphrases, more than ninety-five per cent. of the general run of abstracts, as we find them in a majority of American medical publications, are condensations of such compilations and paraphrases. Is this fair to the subscribers, fair to the modest thinkers and investigators?

If a medical publisher thinks that he cannot afford a well trained director for his abstract department, he should either discard it altogether or conjointly with other publishers, who are in a similar predicament, secure the services of a competent abstracter at one of the medical centres, and pay his pro rata share.

A great deal more could be said on the subject, but I believe I have shown where the shoe pinches.

In examining for evidences of hereditary syphilis it is well to remember that the characteristic Hutchinson teeth are the two upper permanent central incisors.

THE CO-ORDINANCE OF LABORATORY WORK AND INSPECTION IN SUPERVISING THE MILK SUPPLY.*

BY

WM. ROYAL STOKES, M. D., and T. M. WRIGHT, M. D.

Baltimore, Maryland.

The co-ordination of laboratory work with inspection is a most important matter in directing the attention of health officers to conditions which must be remedied or changed. These changes can not be made, however, unless the health authorities are reinforced by laws which give them power to enforce their regulations, and for this reason it is important to have stringent laws for the regulation of the milk supply.

Before mentioning the various methods which direct the attention of the inspectors to dangerous conditions, we shall briefly describe the main points in an ordinance recently passed in Baltimore.

This ordinance requires that all persons selling milk in Baltimore shall first receive a permit from the Commissioner of Health. Before the Commissioner issues this permit he must have the stores, wagons, and dairy-farms inspected, and the milk is only allowed to be sold if these places are in a sanitary condition, and properly equipped for producing, handling, and distributing milk. These permits can be revoked by the Commissioner for violation of any of the ordinances, or if any unsanitary conditions or diseases are discovered in connection with the source of supply.

*From the Bacteriological Laboratory of the State and City Boards of Health, Baltimore, Maryland. Read before the American Public Health Association at Winnipeg, August, 1908.

The milkmen must furnish a list of their customers, and the department is empowered to make such regulations as they deem necessary for proper transportation, refrigeration, storage, and distribution. Passing over the importance of veterinary, medical and general inspection, it is the purpose of this paper to describe certain methods useful in detecting unwholesome milk, and to state the results of these laboratory methods.

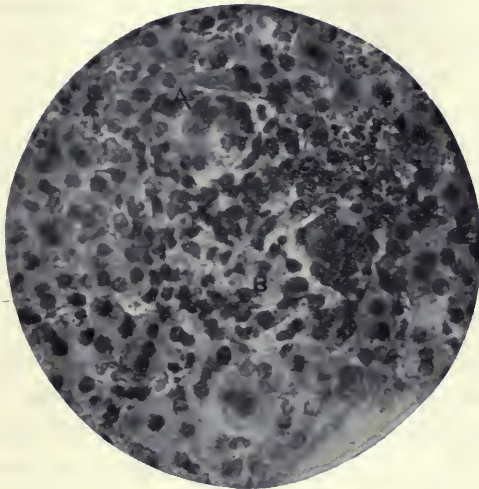


FIG. 1. Small tubercle in liver produced by the intraperitoneal injection of sediment from market milk. At "A" a giant cell is seen, and "B," indicates the central area of caseation with nuclear fragmentation. The circumference of the picture show the double rows of liver cells separated by capillaries.

GENERAL BACTERIOLOGICAL EXAMINATION.

It has been our custom to make routine bacterial counts of the various specimens of milk from the railroad stations, wagons, stores, and dairies. In addition we always test the milk for the presence of the bacillus coli in 1/1000 of a cc. These tests enable knowledge of the milk supply, as well as directing their attention to dirty

milk with high bacterial counts and continuous presence of the colon bacillus.

Hewlitt and Barton¹ found the colon bacillus in 46% of the London milk samples in quantities not over 1 cc., and Jackson has detected the colon bacillus in the Brooklyn milk in 0.1, 1.0, and 10 cubic centimeters.

During the year of 1906 we made 685 bacteriological examinations of milk, including the numerical estimation of bacteria per cc. and the presence of the colon bacillus in 1/1000 of a cubic centimeter.

One hundred samples contained from 10.000 to 50.000 bacterial colonies, 58 contained from 50.000 to 100.000 bacteria, 124 contained from 100.000 to 500.000 colonies, 60 contained 500.000 to 1.000.000 bacteria, 244 contained from 1.000.000 to 10.000.000, 89 contained from 10.000.000 to 50.000.000, and 10 contained 50.000.000 or over. One specimen contained 60.000.000, one 62.000.000 and one 73.000.000 bacteria per cc.

In the specimens of milk containing 1.000.000 bacteria per cc. or under the colon bacillus was found 103 times and not found in 244 times in 1/1000 of a cubic centimeter. It was found in these cases in 29% and was absent in 69%. In specimens containing 1.000.000 bacteria or over the colon bacillus was found 245 times and was absent only 93 times. It was present in 72% of the cases and was absent in only 28%. This shows that the colon bacillus is more apt to be present in milk with a high bacterial count. In specimens of milk containing 500.000 or under the colon was found 73 times and was not found 163 times. It was present therefore in 30% of cases and absent in 70%. In the specimens ranging between 500.000 to 1.000.000 per cc. it was present

in 40 instances and absent in 24. It was present in 66% of cases and absent in 34%, thus reversing the relation of percentage in the milk under 500,000 bacteria per cc. In milk with 50,000 or under the colon bacillus was only found 21 times and was absent 82 times. It was present in 20% and absent in 80% of the cases.

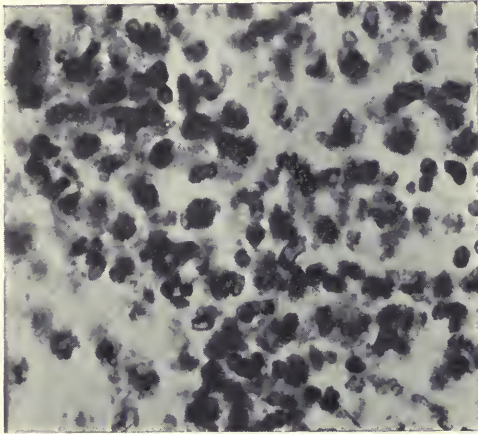


FIG. 2. This shows the polynuclear leucocytes in the center of an abscess of the liver produced by streptococcus lacticus in the sediment of market milk.

The best certified milk is supposed to run 10,000 bacteria per cc. or under, and the colon bacillus in such milk was only found five times and was absent 27 times. It was present in 15% and absent in 85% of the cases. It can thus be seen how the milks containing fewer bacteria also contain the colon bacillus less frequently.

The total number of bacteria present in the various milks during the different months was also estimated. The average for each month was then obtained, and with one exception it was found that the highest bacterial counts occur in the late summer and the early fall.

During the year of 1907 we made 809 bacteriological examinations of milk including the numerical estimation of bac-

teria per cc. and the test for the presence of the colon bacillus in 1/1000 of a cc. The colon bacillus was found in 228 samples and was absent in 581 a percentage of 28.2% and 71.8% respectively. In specimens of milk varying between 10,000 and 50,000 bacteria the colon bacillus was found 11 times and was not found 132 times, a percentage of 7.7 and 92.3 respectively. In specimens between 50,000 and 100,000 it was found 5 times and was absent 48 times, a percentage of 9.3 and 90.7 respectively. In specimens between 100,000 and 500,000 it was found 25 times and was not found 143 times or a percentage of 14.9 and 85.1. In specimens between 500,000 and 1,000,000 it was found 23 times and not found 75 times, a percentage of 23.5 and 76.5. Between 1,000,000 and 10,000,000 it was found 87 times and was not found 148 times, a percentage of 37.1 and 62.9 and between 10,000,000 and 50,000,000 it was found 21 times and was absent 15 times, a percentage of 58.3 and 41.7. In 1906 the milk between 10,000 and 50,000 bacteria per c. c. contained the colon bacillus in 20% of cases and compared with 7.0% in 1907. In the specimens ranging between 500,000 and 1,000,000 bacteria in 1906 it was present in 66% of cases as compared with 23% of cases in 1907. In milk of 1,000,000 or over in 1906 it was present in 72% of cases as compared with 47.5% in 1907. It will be seen from these statistics that the higher the bacterial count the more frequently the colon bacillus is found. It can also be seen that although a larger number of examinations were made in 1907 than in 1906 yet the colon bacillus has been found in a much smaller percentage of cases.

Milk containing 50,000,000 bacteria per cc. or over was found 3 times and all of

these samples contained the colon bacillus. In these 3 samples the counts were 50,000.-000 and 100,000,000. Thirteen plates were liquified before counting, and in 60 plates not counted the colon bacillus was found 45 times and was absent 15 times, a percentage of 75 and 25 respectively.

In 143 samples the bacteria per cc. varied between 10,000 and 50,000; in 54 samples it varied between 50,000 and 100,000; in 168 samples it varied between 100,000 and 500,000; in 98 samples between 500,000 and 1,000,000; in 235 samples it varied between 1,000,000 and 10,000,000; in 36 between 10,000,000 and 50,000,000, and in 3 samples there were 50,000,000 or over.

In addition to showing these general points, it is our intention to watch milkmen with high bacterial counts. If these continue the farm or store will be inspected, and unless clean milk is produced the license will be revoked.

TUBERCULOSIS.

Bang, Ernst, Hirschberger, Klein, and Boyce found tubercle bacilli in from 6% to 50% of the samples examined, and Kanthack and Sladen obtained this organism in the milk from 9 out of 16 dairies examined at Cambridge. At Islington 14% of 118 samples of milk were found tuberculous, at Hackney 22% contained tubercle bacilli, and at Croydon, England, 6% of 164 milks gave a similar result. In 1897 Obermüller found tubercle bacilli in 48% of the market milk examined in Berlin, and Martin found 33% of the milk in Paris to contain these bacteria².

Butter has not escaped this serious arraignment, for Swithenbank and Newman also publish a table of 498 examinations of butter from Berlin, Munich, Budapest and Philadelphia, in which tubercle bacilli were found in 15% of the specimens.

Although the prevalence of tuberculosis in cattle is not a direct part of the bacteriological examination of milk, yet I shall mention it in this connection, since I believe it often introduces the bacilli into the milk. Such milk must not infrequently produce tuberculosis in human beings, since it is now well established that bovine tubercle bacilli can produce tuberculosis in man.

The late Professor MacFadjean believed that about 2% of the milking cows in England have tuberculosis of the udder, and such animals must often infect milk with the tubercle bacilli. The Live Stock Sanitary Board of Pennsylvania examined 44,801 cattle and found 12% tuberculous.

Professor Russell³ of the University of Wisconsin has carried on a series of interesting investigations concerning the presence of tuberculosis among cattle fed on refuse skimmed milk, and he believes that tuberculosis must exist to a marked extent in a milk herd before it can seriously infect skimmed milk. In several of the creamery districts he found explosive outbreaks of tuberculosis in cattle, which he traced to feeding with skimmed milk. In a creamery district whose herds were largely fed on non-pasteurized skimmed milk 1213 animals were tested, and 374, or 34% were found tuberculous, while in 1467 cattle in a district where skimmed milk was not used for feeding only 8% were tuberculous cases.

Our method of searching for tubercle bacilli in milk consists in centrifugalizing 250 cc. of the milk in each of 2 centrifugal cups, and collecting the sediment. The entire sediment is injected into the abdominal cavity of a guinea-pig. If the animal does not succumb to an acute infection we kill it at the end of a month and remove the liver,

lungs, and suspicious glands for microscopic examination. These can be cut immediately by means of the freezing microtome method, but we harden in formalin and cut and stain celloidin sections. If we find typical tubercles in any of the tissues, an inspector is sent to the dairy farm to detect the tuberculous cow by physical examination or tuberculin.

During the past two years we have inoculated 179 guinea-pigs by injecting them intraperitoneally with the entire sediment from 500 cc. of milk. Of these animals 88 or 49% lived over one month. These were chloroformed and a few died a natural death after this time. Sections from the liver and lungs from all of these animals were studied and four showed typical tubercles in the liver. This is as far as the examination went, as we consider these tubercles characteristic enough of tuberculosis to warrant an investigation of the dairy farm. I am unable to report any further upon the results of inspection at present, but it is our intention in the future to order a veterinary inspection of all farms from which such milk is obtained. The other 91 animals died of acute infection and the results from the study of their viscera will be mentioned in describing the virulence of the streptococcus. Anderson⁴ examined 272 samples of market milk in Washington and he lost 49 or 18% from acute infection. Of the 223 that remained he found typical tuberculosis in 15 or 6%. He used much smaller quantities of milk than we have used. We think that some routine method should be adopted for the detection of tubercle bacilli in milk. The examinations should be made from the milk found at the railroad stations so that in this way particular plague spots may be later detected by a veterinary examination.

STREPTOCOCCI AND LEUCOCYTES IN MILK.

This subject has been so thoroughly described that we shall simply state the results of our investigations by using the methods described by Slack. If the polynuclear leucocytes are over 25 per field and streptococci are over 50,000 per cubic centimeter, we send our inspector to the dairy farm. He then collects samples from individual cows, and we have already found 15 cows with pus cells varying from almost pure pus to such counts as an average of 100 pus cells to every immersion field. In making these counts we always use Jenner's blood stain. This stains the polynuclear leucocytes in a characteristic way and has enabled us to distinguish these from eosinophiles, lymphocytes and epithelial cells.

It may be urged that leucocytes and streptococci are found in practically all milks, but when both of these elements are in excessive amounts it pays to look up the dairy farm. Streptococci obtained from milk are often virulent as the work of Heinemann⁵ has well demonstrated. He has proven that the streptococcus lacticus is akin morphologically and culturally to streptococcus pyogenes. The streptococcus lacticus will produce a local reaction when injected into rabbits, and when passed through a series of rabbits it will produce general septicaemia and death. In a large number of our 71 autopsies on animals dying from acute infection we studied the lesions microscopically and found that the streptococcus was the only organism that we could demonstrate by staining methods in the acute purulent lesions, although our cultures would often show a mixture of streptococci and colon bacilli. The streptococci were probably absorbed through the lymphatics and entered the liver by this

route. We would notice a diffuse infiltration with leucocytes in the lymph spaces of the peri-portal connective tissue. From these areas the leucocytes would enter the tissue of the lobules, either producing marked general infiltration or single or multiple abscesses often with large areas of necrosis. In these abscesses we often demonstrated masses of streptococci by Weigert's bacterial stain. We also used Flexner's stain for the colon bacillus, but were unable to demonstrate any colon bacilli in these acute purulent inflammations. We came to the conclusion that the streptococcus was the cause of these conditions. In six of our cases of acute infection we isolated the streptococcus in pure culture. On inoculating white mice with this pure culture we produced general streptococcus septicaemia and death. A few other streptococci proved non-virulent. In one case we isolated the *B. pyocyaneus* in pure culture from the milk and this proved quite virulent and fatal for guinea-pigs and mice. There can be no doubt that such organisms act either as primary or secondary invaders in the intestine.

We have examined the sediments from 540 samples of milk, using Slack's method both for estimating the number of pus cells and the number of streptococci present. We have adopted the arbitrary standard of 25 pus cells per immersion field and over 50,000 streptococci per cubic centimeter as a cause for further investigation. We found this condition in 27 cases and by further investigation we have found 15 cases of garget due to the streptococcus lactis. We believe, therefore, that these methods should be used in order to point the way for further investigation by inspection, and think that in this way various infectious diseases can be more readily detected by turning the

special attention of the inspectors to certain dairy farms.

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THE PSYCHOLOGY OF THE TOBACCO HABIT.

BY

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Toledo, O.

For reasons which readily suggest themselves, it is necessary at the introduction of the discussion of this subject to state, that *tobacco*, and not the tobacco *user*, is the subject matter under consideration.

The desire that this fact shall be kept in mind is so great, that several times in the discussion, reference will be made to it.

It is well also, to state that the subject of the economics of tobacco is not referred to; neither is the physiological action of tobacco mentioned, nor its pathology spoken of except incidentally, as where the psychological would seem to be dependent upon those conditions.

The theme of the paper is 1st: the thoughts and decisions, which were back of the man's commencement of the use of tobacco; and 2nd: the thoughts and decisions which are now back of the man's continued use of it.

World-wide practice and custom, is but the multiplication and addition, of the doings and conducts of single men; and the man of the theme, who is spoken of as commencing and continuing the use of tobacco, is but the type, and the opinion of

this type as to the use of tobacco, is the subject matter studied here.

Joyce defines psychology as, "The direction which attempts to describe mental life, and as far as possible, to discover its conditions and laws."

James says, "Psychology is the science of mental life, both as to its phenomena, and to its conditions." There are as many definitions of psychology, as there are authors of books upon psychology; but the definitions all center around, radiate from, or point to the proposition, that human conduct has a psychic origin.

Joyce says, "Physical facts can be known and read of all men, and hence are public property; but the psychical is known only to one's self."

James says, "The phenomena of the mental are, feelings, desires, reasons, decisions, etc." King says, "All expressions, bodily and mental, tend to terminate in actions."

Thus, after the phenomena of the mind which are mentioned by James and by King, have resulted in physical facts which Joyce says "are public property," then by the analysis of those physical facts, the otherwise inscrutable mental, may be made to appear in its physical representative of conduct, as the shadow appears in the mirror.

Everywhere, and in all times, the study has been to get at and uncover the intangible but real, through the process of analyzing the physical.

To analyze conduct is to interrogate it. Keeping in mind the conduct of men in other particulars and in general, and then asking questions of tobacco conduct, its psychology, the mind which permeates and dominates that conduct is shown in relief, as agreeing with or differing from the com-

monly accepted psychology of other conduct.

While the psychic is the moving force, and has its representative in the conduct of men, still there is a determining and modifying force, between the psychic on the one hand and the conduct on the other.

Between the psychic and the conduct, there is that something, which so influences the psychic, that if the psychic is not on guard in great force, it will soon become the deluded slave of the physical.

Nature deeply and obscurely plants the secrets of her unseen forces, in physical phenomena, and the nearest she ever comes to betraying those secrets, is when she makes visible, their effects.

One mind may study its own ego, but into the precincts of another ego, it may not trespass.

There is however, a common ground of mutual interests, in which it is the nature of the ego, to blend with other egos; and within this realm of communal helpfulness, enjoyment, and self-preservation, the man's conduct is, by common consent, understood to represent his opinions.

Those opinions are made up of what Joyce, quoted above, styles, "feeling desires, reasons, decisions, etc."

The analysis and discussion of conduct, so far as the use of tobacco is concerned, is the work of this paper.

Conduct though, viewed as above, is at once seen to be composed of very sensitive and precious things, if not in fact of actual prerogatives. And so, if this discussion involved merely sentimental matters, to in the least call conduct into question, or to interrogate it, would be but to invite and provoke recrimination, and retaliation.

The psychology of tobacco though, is infinitely larger, and more important than

mere sentiment, and so to discuss the conduct of tobacco using, in its world-wide scope recognizes the conduct as being a power, which is of greatest importance.

The psychic of tobacco using conduct, thus becomes a subject worthy of the most careful study.

While tobacco using conduct, must be particularized, and the various phases of conduct must be specified, in order that a line may be had, back to the psychic, still each specified phase of conduct, is not studied as an individual habit, nor as the habit of any single man, except as the aggregations of individual habits, go to make up class conduct.

There are exceptions to all rules, but, it is the common prevalent conduct which is here discussed, and not the exceptions.

There are several ways of looking at tobacco using conduct. One view is, that the conduct is the product of tobacco, acting exclusively, upon the minds and instincts of men.

Another, that tobacco conduct represents the effects of tobacco, upon the physical body alone.

And still another, which combines the two, and is, that the conduct represents the mutual concessions, the equilibrium, which has been made and worked out, by and between the psychical and the physical.

Whichever view may be entertained as the correct one, this discussion has to do with that psychic, which first suggested to the physical, the use of tobacco, or, that psychic to which the physical first appealed for permission to use tobacco, and which sanctioned and ordered its use; and that psychic which now, is either working in harmony with the desires and demands of the physical, or else, is being controlled

by the physical, to the continuance of its use.

As has been said, it is intended that this shall not be a discussion of the sentimental features of the tobacco conduct, and yet it is very difficult to so present the subject, as not to suggest to some one, that the writer comes under the classification which Dr. Hammond gives in *Popular Science Monthly*, where he says in his article entitled "The Sanitary and Physiological Relations of Tobacco" that, "it is certainly true, that the great majority of those who have inveighed against the use of tobacco, belong to that class of persistent reformers, who deem it their duty to attack every habit or custom, which results from civilization. To these, every refinement of civilization, is evidence of man's degeneracy."

In a discussion into which sentiment enters, the ire which Dr. Hammond expresses rises, either logically or illogically at once; but, in an inquiry into the psychic which underlies the use of tobacco, physical facts, and not sentiment, are discussed.

M. Jules Rochard, in *North American Review* says, "A proper study of the use of tobacco, should be made with an independence of prepossession, which is not easy to find." He says, "I am myself, one of the reformed smokers."

Tolstoy, in *Contemporary Review*, with a psychic guided by observation alone but possibly dominated by inheritance with all the vigor of his radicalism, damns the entire practice.

These three authors are quoted, to show the three phases of psychic towards the use of tobacco.

Dr. Hammond, who has followed his psychic into the use of tobacco, or else

whose psychic has been unwillingly captured by tobacco, writes the psychic picture, as tobacco looks to him while under its influence, and waves the red flag against interrogation as to why he is there.

Rouchard, who has followed his psychic into the use of tobacco, through its use, and then out of it says, that the subject as to why men use tobacco, demands most careful study.

Tolstoy, who never used tobacco, utterly repudiates the idea that there can be any rational reason for its use.

The psychic, which projects Dr. Hammond's statement, that tobacco using is one of the refinements of civilization, is so loaded with incentive in one direction, as to make him overlook the very patent fact, that civilization had for centuries, lived in its own cities, had built and filled libraries, had founded and peopled schools of learning, had given to the world great men of literature, great scientists, great statesmen, great generals, and was sailing the high seas, when barbarians introduced tobacco to civilization.

Clearly, tobacco using is not as Dr. Hammond says, a refined product of civilization, but something which civilization appropriated from the barbarians.

Dr. Hammond, in reasoning out the utility of tobacco says, "The chief effects of tobacco, are upon the brain and nervous system, and it is mainly to secure these results, that man resorts to tobacco at all." He says, "Tobacco is a subject belonging to the vegetable kingdom of Nature, for which man has so strong an appetite, that one of the first things he does when emerging from barbarism or having become acquainted with its virtues, if already civilized, is to provide himself with it if he can."

Rouchard says, "To escape from real life, and its drudgery of daily occupation, to live in dreamland in an ideal world, is the goal sought for in the use of tobacco." He says further, that, "it seems that smoking pupils do not do so well, because they are naturally idle, and find in tobacco an auxiliary to their idleness, and relief from its consequent ennui."

M. Johnston, in the *Nineteenth Century*, writes, "Were it possible, amid the teasing paltry cares of life, to find a mere material soother and tranquilizer, productive of no evil after effects, and accessible to all, who is so heartless as to wonder or regret, that millions of the world-chafed, should flee to it."

These authorities make the volition of the psychic, to be dependent upon the cravings of the physical; that is, the psychic itself, is not conscious of the need of the soother and tranquilizer, until the irritated nerve and brain cells of the jaded, harrassed, and struggling man, cry out to the psychic for relief.

It is common observation that the psychic may, argumentatively at least, if not reasonably, follow the physical to destruction; and in this instance, where the over-burdening cares of life are productive of an insistent craving and demand for nepenthe, it is very difficult to differentiate between the purely psychical, and the purely physical, or, to say in this impelling motive which begets and perpetuates the use of tobacco, where the psychical begins, and where the physical leaves off.

King, says, "Nowhere are the psychical and the physical so completely interwoven, as in the phenomena of habit."

Hammond says further, and with somewhat of irony, "With total disregard for his pocket, his body, his morals, his salva-

tion, man smokes etc., and smiles benignly but defiantly at those whose efforts have done so little to thwart him in the pursuit of pleasure."

The question is, what is the psychic which is back of the tobacco conduct which Hammond so accurately describes.

Is it the same conception regarding the mutual obligations which men should have for each other, which the man who is now a tobacco user, had when his mind first began to entertain the thought of using tobacco, or, is the "benignant though defiant smile" the output of a tobacco influenced psychic. If it were possible for the tobacco habit, or any other habit to be practiced, and in no way touch or influence any one else except the one who practiced the habit, then it is plain that the "benignant but defiant smile" might in a sense, be in place; but since the "fruitless efforts to thwart him in the pursuit of his pleasure," are efforts put forth by those whose personal rights and privacies are being invaded by the tobacco conduct, the psychological question comes up as to what can be the state of mind which is back of such a selfish disregard of the rights, comforts, and enjoyments of others, as to make those comforts and enjoyments count for nothing, as against the satisfying of the personal cravings for tobacco.

Plainly, tobacco conduct as Hammond puts it, is an expression of overbearing selfishness, and, assuming that in his pen picture of the thoughts which are back of the tobacco conduct, he has shown the real psychic, the question is, was that selfish nature in the man before he began the use of tobacco, or has the insistent craving for tobacco, created a new nature in the man, or else blinded him to the effects upon others, of his tobacco conduct.

All this is about tobacco conduct, but not in the least about the man who is the representative of tobacco, in the staging of tobacco conduct.

In this part of the country, those ills and cares of life which are assuaged by tobacco, and which these authorities say, the overburdened flee to, are almost exclusively the scourge and nightmare of the male sex.

The demi-monde however, almost without exception, seek to dull the afflictions and horrors which are attendant upon their lives, by smoking cigarettes; and in that other class of female society wherein idleness, and aimlessness in life, beget that ennui which the author spoke of as troubling the school-boy, cigarette smoking is practiced; but in the useful and ennobling walks of life, women and girls in this part of the country, do not use tobacco.

Taking these authorities' views as the explanation as to why men and boys use tobacco, the question arises as to how women and girls endure the stress of the duties of life without being compelled to flee to tobacco dreamland, while the nervous systems and brains of men and boys, break down under the strain of the petty annoyances of the every day affairs.

The psychology of tobacco is a study which involves not a few psychical questions; when however, the psychical questions seem to inquire into matters either of ethics, of esthetics, of morals, or of the broad principles of right, then, Dr. Hammond says the questioner takes the role of the intrusive reformer. Dr. Hammond for some reason, denies that conduct, the physical, is public property, as stated by Joyce; and yet without exception, either among the civilized, or the uncivilized, conduct is judged to be representative of motive. Conduct itself is not punished, nor

assessed damages, but motives or absence of motive, is held responsible for conduct.

The views of Dr. Hammond are a part of the psychology of tobacco, and those views are up for analysis. The views were the product of a tobacco soothed, or tranquilized brain and nerve cells. Those brain cells were foreguarding and pleading a continuance of their accustomed care-oblivion-producing narcotic, or else those views were the untainted expression of molecular action which was energized by being in harmony with the best in ethics, the best in esthetics, the best in morals, the best in the broad principles of right.

The conclusion as to the condition which those brain cells were in when those views were expressed must be worked out by the analysis of what he said.

Analyzing his statements and tobacco conduct generally, which conduct is the summing up of the words, and opinions, and actions of men regarding their use of tobacco, is the holding of those statements and conduct up by the side of those recognized principles by which the common every day conduct is ethically judged; and it is the only means by which the psychology of tobacco conduct can be arrived at.

As sufficient reason for the use of tobacco, these authorities cite the fact that tobacco covers up the tires, and the worryings, which are the attendant consequences of having lived, and yet, generally speaking, pain and discomfort are recognized in medicine, as being physically beneficent; that is to say, pain and discomfort call attention to perverted function or to disease. Pain and discomfort are notice to the instinct and intelligence, that there is derangement in the physical. Pain and discomfort call for study and attention, and not for anesthesia.

Those "world chafings," the ills and cares of life which in men and boys, demand and seek the solace of tobacco, are moral courage inspiring, when not narcotized, but studied.

If, as these authorities assert, the objective point in tobacco using, is, oblivion to the consequences of having to bear a manly part in life, or, to having a manly part to bear, then, the psychic which is back of the tobacco using, is not creditable to intelligent men.

The other phases of tobacco conduct, are represented, not by words and opinions as the foregoing have been, but by the actions of men; but, referring to an action or practice, however common, does not carry with it any thing of the personal; indeed the proof of common usage or custom, at once estops all claims to private ownership, hence the commonness of the practices referred to, prohibits them from any personal application.

For example, ask a man a question through the gratings of his office window, and while he is filling his air passages with tobacco smoke, his face will assume the expression of deepest thought and attention and when his mind has had time to compass the matter he will expell the smoke from his mouth or nose with entire disregard for the direction which the smoke takes, turn and spit at the spittoon, and then proceed to answer the question, giving the questioner the full benefit of his tobacco smoke, and of his tobacco breath. This is common practice in municipal and county offices, and may be the conduct of the official himself.

What is the psychic back of the practice? The place is a public office in a public building wherein of all places, a man's personal habits should be the most under

control and the most hidden; and still, both outside and inside his office railing, the air is filled with tobacco smoke, and also made additionally malodorous, by the emanations from the spittoons.

A public office, a public building, a public street, a public park is, by common consent of enlightened men, dedicated to the mutual respect, the mutual enjoyment, necessitating the mutual conservation of all possible benefits, by the citizenship.

Part of this spirit which should and does pervade public places is written, and part is unwritten, but probably, if there is a difference in value, the unwritten represents the highest ideals in man's climb upwards.

The question which this study here suggests is, from whence does the tobacco conduct get the impression that the air of public places, is its to contaminate, pollute, and make unpleasant for others. The tobacco user recognizes and respects the other public rights which are common to all, but for some reason, tobacco makes him assume that he has the right to load the air which others must inhale, with the tobacco smoke which he has blown from his own air passages.

What is the psychic of men riding street cars, and, as Dr. Hammond says benignantly but defiantly, allowing their tobacco smoke to drift into the faces of the other passengers.

What is the psychic, which assents to a man's smoking in a public dining room. King says, "The ethical life has its center in the will." So, that when the will has surrendered to tobacco, the ethics-perception function of the mind has gone with the surrendered will.

What is the psychic, which permits a man to go smoking, into another man's

office; or, what is the psychic which prompts a man to carry his lighted cigar, cigarette, or pipe into another's home or office, and thus fill the room with the concentrated, and hence more offensive smoke.

What is in a man's mind, when he asks another if he objects to his smoking in his office or home, thus putting upon the man the embarrassment of having to decline to let him smoke or else putting upon the man the annoyance of having to endure the effects of his smoking habit.

The psychological fact is of course, that if the man was aware that his asking to smoke might greatly embarrass the other he would never ask the question; but psychology asks what has tobacco done to the man, which makes him so that he dare to venture upon such a possibility. The question is intended as a polite civility, but psychology asks, what has created in the man that standard of propriety.

What is the psychic, which prompts a man to leave his wife or his best friend, and go for an hour into the smoker. What is the psychic, when he comes from the smoker, with his clothing saturated with smoke and bad odors of the smoke room, with every gland of his body, and every air cell of his lungs trying to get rid of the tobacco and takes his seat again with his friends. What is in the man's mind, who thus puts upon friendship, the load of his tobacco conduct.

King says, "One only degrades his friendships, when he measures them by the number of liberties he takes, the number of privacies which he rides over rough shod."

What is it, either in tobacco or in the minds of men, which puts the young woman behind the tobacco counter, on the

level of common familiarity with the comer and goer, to throw dice for tobacco? What is the psychic, which makes the "No Smoking" and the "No Spitting" signs necessary in public waiting rooms, and then what is in the tobacco user's mind, which prevents him from seeing those signs, or, if he does see them, which prevents him from heeding them? Notices which are designed to protect the public against nuisances, are themselves suggestive of the nuisances which they would prevent, and the "No Smoking" and the "No Spitting" notices which the maintenance of sanitary and sanity conditions make necessary, are eye-sores due to the prevalence of tobacco conduct. The psychological question is, what is in the mind of the user of tobacco, which sanctions a practice that is not only a public nuisance itself, but, which compels to be kept before the eyes of the public, reference to the nuisance?

What is the psychic which makes a man afraid of the public drinking cup, but which would not make him hesitate for long, before he would seek solace from the other man's pipe? What is the psychic which controls a man who knows all about bacteriology, who takes the uncovered piece of tobacco from his trousers' pocket, bites from it, and possibly hands to another man who will also bite from it?

Does tobacco create in its users, a new and special psychical standard of proprieties?

Did the aborigines, have the same thought, in passing the pipe of peace, as is in the not uncommon practice of passing the pipe in this day?

Is there analogy between the alternative presented by the aborigine of accepting

his pipe, or fighting him, and the burdening of friendship with tobacco conduct?

The tobacco user's friend, is the only one who feels this burden upon friendship.

To the user himself, the fact that he fills the atmosphere with his smoke, does not suggest to him the thought that he may possibly be annoying others, because, as the authors, quoted express it, the tobacco has transported him to dreamland, and has made him oblivious to the petty annoyances of life.

What is the psychic of an acquirement, an accomplishment, or as Hammond puts it, a refinement of civilization, which so changes natural order, as to substitute for the psychological and physiological enjoyment of pure air, a taste which is not satisfied, unless inhaling an atmosphere which is saturated with tobacco smoke?

Mark Twain, publishes the fact that when he was awaiting the conferring upon him of the degree at Oxford, his desire for tobacco became so insistent, that he knowingly violated the rules of the institution, by smoking.

The psychological question is what was in the mind of Mark Twain which caused him to so forget, or disregard the etiquette of common decency as to force his habit, where he says he knew it was contrary to established custom.

What was the psychic, which after he had done a thing that, judged by the common standards of every day affairs, was an ungentlemanly thing to do, what was his thought, and what was it that inspired the thought which prompted him to publish his disloyalty to the accepted principles of gentlemanly conduct, as a joke.

By common consent, the parade of egotistic, unrefined, selfish mannerisms, is

looked upon as boorish; and the study of the psychology of tobacco compares that tobacco conduct of Mark Twain with the conduct of others, and with his own conduct towards other proprieties and civilities of life, and psychology raises the question as to why his tobacco conduct, does not harmonize with gentlemanly conduct elsewhere.

The study of the psychology of tobacco conduct, is but the application to the phenomena which constitute that conduct, of the same standards for estimating worth, as are commonly applied in the study of other conduct.

Mark Twain, by the praise-worthy use of his intellect, had become a very distinguished honor to the literature of the world.

Oxford, one of the most noted institutions of learning which the world had produced, was ready to stamp his merit, with the highest expression of the institution's appreciation.

If the prohibition of smoking was nothing more in fact, than a senseless whim of tradition, it nevertheless existed, and was part of the thought of the institution which gave him his degree.

The question is, what was in his mind which caused him to not follow the ordinary course of the gentleman, but to smile benignantly though defiantly at the will, or tradition of Oxford and, as Hammond says, get the tobacco if he could.

Personal liberty, by its forced morally unworthy associations, has become a malodorous thing but, in its best sense, is defined as "a decent respect for the opinions of mankind."

The honorless conduct of Mark Twain, in his exhibition of disrespect for the opinions of mankind, is referred to here as

personal to him, because he himself gave his tobacco conduct publicity.

His tobacco conduct in that particular instance, is not however peculiar to him, nor because of his peculiar characteristics; but, in his obdurate forcing of his tobacco habit upon defenseless Oxford, he was following the usual custom of the tobacco conduct which, apparently without so much as the suggestion of a thought of care as to the wishes of others, brazenly obtrudes itself upon the defenseless.

The question is what is the psychic which is back of, or, what psychic can be back of the obtrusive forcing of an especially conspicuous personal habit, upon the senses and into the privacies of others.

To speak of a thoughtless psychic, seems at first like a paradox, but for some reason the psychic of tobacco conduct, is opaque to light from some sources, and the psychological question is, do the effects of tobacco, which make the man oblivious to the petty annoyances of life, also make his mind moribund to the impulses of his higher and finer sensibilities, so that he no longer recognizes as a possibility even, that there may be discomfort to others, in his particular way of taking a narcotic.

It is not an uncommon sight, to see a man enter the elevator car, and if women are present remove his hat; but, he either continues smoking, or else allows the odors from his smoking pipe or cigar, to float into the faces of the women.

What is the psychic condition which permits him to remember so much of one time etiquette as to make him remove his hat, but which makes him obtuse to the possible offensiveness of his personal habit.

Because of the already wide-spread, and rapidly growing use of tobacco, its

psychology becomes a subject which should be carefully studied.

Even now, in no public place is there the least protection to any one against the tobacco conduct, as the effect upon the user, is to make him assume that his habit is not disagreeable to those about him; and so he is never conscious of such a condition of things unless the people put themselves in the embarrassing position of notifying him that his tobacco conduct is not pleasant to them.

Those finer sensibilities which feel the embarrassment of such a course are fully awake in the non-user, the same as they were awake in the user before he transported them to dreamland by tobacco, and the one who is being inconvenienced by the tobacco conduct, is likely to so feel the embarrassment of calling the attention of the user, to the annoyance which he is causing, as to elect to endure the annoyance, rather than to try to call back from dreamland, the finer sensibilities of the tobacco user.

In some court rooms while the court is in actual session, smoking is not practiced, but, up to the very minute when the bailiff announces the presence of the honorable court, the smoking proceeds.

The jurors are provided one spittoon for each three chewers of tobacco, and the business of the court is carried on in an atmosphere which is filled with the odors of tobacco smoke, and with the odors of the spittoons.

The psychological question is, are the court and jurors so much under the oblivion-producing effects of tobacco, as that they do not see quite as plainly as they otherwise would, the justice, and the injustice of the cases before them.

Does the dreamland, to which tobacco

transports the sensitive and easily influenced finer faculties, with which it is designed that intelligence shall come in appreciative touch with the beginning of things in that sphere where mind meets matter, so influence them as that the judge and jurors are without the helpfulness to the solution of the problems of humanity, which comes of the full and clear meaning of the real things of life, and hence, give as their verdict a substitution for the real, the illusions of dreamland.

The opinions of the authorities quoted, of Hammond, of Rouchard, and of Johnston are to the effect that the nerve and brain cells of mankind—of the boys and men of this part of the country—have reached such a state of extreme sensitiveness, as that they are no longer in harmony with environment; and their argument is, that, instead of studying environment, and studying nervous function, and striving to bring environment and nervous function into harmony the one with the other, it is wiser and preferable to so obtund nerve cells as to make them unconscious of environment.

Unless these authorities have had an entirely new vision of truth, and in that way have got hold of something which no one else has heard of, it is but justice to them to say, that they have written articles upon other subjects, which very much more appealed to reason, than do their views as set forth upon this phase of tobacco using.

That tobacco does allure, and by having its quantity gradually increased, does satisfy the cravings of some parts of the brain and nervous system, is patent enough; but psychology asks, what is the craving, is it a psychical, or a physical craving?

The authorities quoted, say the craving is in essence, a lack of moral courage; a moral courage which gives way and goes down when confronted with the continuous, every day resistances to men's efforts, which resistances are common to the lives of all men.

Notwithstanding the opinions of these authorities to the contrary bravery and courage are not wanting to the users of tobacco, towards the duties and obligations to the parts which they are acting in life, more than they are in the make-up of other men. They meet the emergencies of life as well as any one else; their friendship is as true as is that of others; tobacco has not dulled them in either of these respects; but, the lack of courage, the lack of will power which these authorities refer to, is shown by the fact that they were unable to resist the temptation to begin its use in the first place; and by the further fact that the habit which demands its continuance is more powerful, than is the will power to discontinue its use.

It follows of course, that the will and moral courage are less free to act, after the nerve and brain cells are under the influence of the narcotic, than they were when free from that influence; and too, King says, "There results the certainty, that the nervous system acts again more easily, in those ways in which it has already acted."

After a man has demonstrated his inability to resist the beguiling proffers of tobacco, that manifested lack of will power is made the apologetic foundation for all of the alleged reasons for its use; and those made-up reasons increase in reality and importance to the reasoner, in proportion as the habit becomes deeper seated in the man.

The dreamland into which tobacco carries a man is, as Rouchard says, peopled by his imagination with illusions, and some one of the illusions which he thinks he sees, is given as a reason for using tobacco. It is immaterial so far as tending to establish the real reason for its use is concerned, which one of the illusions seems to the man to be the paramount one, as the real reason for its use goes back to the giving away of his moral courage at the time when the temptation was first presented to him; the particular form in which the temptation appeared to him, being another matter.

If the psychology of any other habit were under discussion, it would be seen that the illusions of any habit, are always very complimentary to the good sense and sound judgment of the one who is being dominated by the habit. The psychologic truth of the matter is, that in the first place the will and moral courage were surrendered to tobacco, after which time, the will and moral courage so far as relates to the use of tobacco is concerned, are out of the man's grasp.

The result is psychologically the same, whether the will and moral courage were surrendered without thought, or with thought and deliberation; the narcotic has got between the will and the original grasp which the man had upon it.

The enticements of tobacco are many and varied in character; but the enticement which the most appeals to one man and which wins out, may not, because of different psychical and physical make-up, suggest itself to another man; probably though, most men are enticed to use tobacco because their friends have begun to use it and, as their friends then find more enjoyment without their company,

but with tobacco, than they do with their company, but without tobacco, they themselves to retain that friendship, or regain those enjoyable associations which tobacco had interrupted, learn to use tobacco.

Tobacco puts an unfeeling barrier between friendships, of which barrier the tobacco user is not conscious; and the one who is thus barred from friendship, and who prizes the ties of friendship more than he dreads the barrier which his friend has put up, himself learns to use tobacco, and he in turn induces others to follow him into the practice by having put up the same barrier to their friendships.

Laudable as it is for a man to prize friendship, and to be willing to make a sacrifice for a friendship which has even put up a barrier to him, the psychological fact is, that moral courage and the exercise of will power, would have found some other way out of the difficulty had not those qualities been lacking in the man. The enticements which friendship, sociability and the exhilarating thought of being accredited by those already on that elevated plane, with having attained to the broad mindedness and depth of view of "good fellowship," are the most potent agencies in recruiting the ranks of the users of tobacco. The fact that tobacco entirely ignores and disrespects friendship, and the fact that the ties of friendship the most effectively lure men to begin the use of tobacco, are facts well worth psychological study.

In every other particular, except in the narcotically assumed special privileged sphere of tobacco using, the user of tobacco studiously tries to avoid the least appearance of trespassing upon friendship's life sensitiveness, and the more intimate the friendship, the more carefully

he guards himself against its possible burdening. But, as has been said, tobacco has so dulled the psychic, as that there is mental vacuity upon the subject of the rights of others, which his tobacco conduct is infringing upon; or else tobacco has substituted for the usual thoughtfulness which the man has for the comforts, wishes and rights of others, a heedless disregard for the effects which his tobacco conduct may have upon them. The psychological fact is that the same faculties are present in the instances in which he does manifest care for the conveniences of others, as in those instances in which he shows no such care; but, in any question into which his tobacco conduct enters, the cravings for tobacco whatever they are, whether psychical or physical, so dominate him as for the time, to cover up those finer thoughts which he gives to other conventionalities.

The psychic which is back of the unnatural and unusual disregard of the fundamental rights of friendship; and the psychic which is back of the disregard of every day proprieties, is a tobacco psychic.

So far as the tobacco conduct of the user is concerned, tobacco tends to bring all men to the same level; the educated and the uneducated, the refined in manners, and the man without refinement have the same tobacco conduct. The psychic of one is the psychic of all, and it is a tobacco produced psychic.

The psychic which is back of the beginning of the use of tobacco, is a psychic which has given way, because not supported by will and moral courage; and the psychic which is back of the continued use of tobacco, is a psychic which is will-less, because the will is dominated by the narcotic.

In all this there is no word which is in the least sense personal. The psychological study of tobacco conduct has been but trying to reach a conclusion as to what men think upon the subject of tobacco using, by the study of what they say and do.

As has been said before however, it is next to impossible to discuss tobacco conduct and not create the impression, that it is the user of tobacco who is being discussed, and not tobacco itself; and too, common custom outrages man in the way which it has been the care to prevent doing here; that is, when the effects of tobacco upon man have become noticeably serious, or have made his conduct particularly objectionable, the verdict of custom is the heartless one that the man has abused tobacco, while humanely speaking, the fact is that tobacco has abused the man.

Custom places the burden for the suffering upon the wrecked man himself, and tells the man that he has used tobacco to excess. When custom heartlessly decrees that the suffering is the outcome of the sufferer's willful acts, that decree paves the way, by suggesting to another man that his will is so strong that he can stop before he reaches the danger line, for another beginner. A man's egotism is always flattered by the thought, that he is going to be different from the man who has gone before him; and hence before the man has taken the place of the one who has fallen by the way side, he has doubly fortified himself with promises and prophecies that he will not use tobacco to excess.

Those instincts and motives which tobacco never respects, but smiles benignantly though defiantly at, also, seek to

prevent the mention of possibly compromising habit, so that tobacco does not get the publicity for the part it has had in bringing about the damage which has been done which is its due, and hence the next man does not get the warning which nature has tried to provide for him. The common proprieties of life, which tobacco has entirely disregarded, remembering the kinship of human weakness, often hereditary, refrain from mentioning habit, again shielding tobacco, at the expense of its victim's humiliation.

The psychology of tobacco includes all of these phases of the thought and thoughtlessness, the motives and absence of motives as regards the beginning of its use, as well as the thoughts and motives regarding the continuance of its use, as has been outlined here. It is of course not true that all men who use tobacco have given the matter the same degree of thoughtful attention, as many men think very little and very superficially upon any subject; but it must be true that the man who is incapable of entertaining thoughts of much worth, is getting the same psychical effects, so far as his ability to people his tobacco dreamland with illusions goes, as is the man who represents the highest and best in intellectual values. Again, it must be a fact that the aborigine who was found using tobacco, had in some way figured out the same supposed benefit to himself, which civilized man, the enlightened refined product of the centuries since that time, imagines he sees in tobacco for himself; and inasmuch as the resulting tobacco conduct is practically the same in the heathen and in the civilized, it follows that the thinking which is done must follow essentially the same lines, though doubtless starting from different intellectual levels.

This discussion has been founded upon the proposition that tobacco using is not, to the user, either physiologic, hygienic, or sanitary; that its use shamefully, and shamelessly invades the privacies of others; that its use, without any compensation whatever, takes away from others, the right of Nature's health giving enjoyment of breathing pure air; that its use violates every principle of refinement in ethics and esthetics, which it touches; that its use heartlessly places upon so sacred a thing as human friendship, the burden of having to endure all of the offenses which it commits.

The argument has been, that this willful violation of physiology, of hygiene, of sanitation, of ethics, of esthetics, of friendship is unnatural to civilized man, and hence that tobacco conduct represents a perversion of the normal. The argument has proceeded from the premise that the depravity of tobacco using, represents the dethronement of the guardianship of the highest faculties over man's conduct; and that there are in control, lower faculties, less human, less humane, less sensitive—in the sphere of tobacco using—to the care for the ennobling things of life, and that these lower faculties are staging tobacco conduct.

The argument has been that this to be unexpected conduct, this abuse of the natural, has its origin not in the naturally working brain cells, but the thought which is back of the conduct, is the product of narcotized brain cells.

The argument has been, that the man's reason has been captured by the unfeeling, unrespecting, narcotized thought; the real man himself, not being permitted to be in the game.

THE PROBLEM OF RACE SUICIDE: A PROBLEM RATHER OF NATIONAL HYGIENE AND PRO-PHYLAXIS THAN POLITICAL ECONOMY.

BY

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Homo sum; humani nihil a me alienum puto.
—Terence.

The fear of depopulation of our country, in consequence of a detrimental habit, in which particularly the American woman is supposed to indulge, and in which she has been helped by the most despicable class of quacks—those who deliberately prevent the woman for selfish reasons from producing offspring—has led to the acceptance of a new term: "Race Suicide," which we encounter in print, conversation and lectures, but which has been misused and is much misunderstood and has received the least attention from those competent to use it.

The subjects of sexual hygiene and marital relations, for the purpose of propagating the race, are seldom discussed. Young men, and still more, young women, are kept in a traditional ignorance of the reproductive functions, because social custom imposes silence upon public educators and teachers of youth. Whenever the evil habits of an untaught public, or the worse consequences of the ignorance in which women are left by those responsible for their enlightenment, are discussed, it is done in a prejudiced, ill-considered and intolerant manner, so that nobody is served by it, while the apostles of truth and ethics continue to maintain existing conditions, by stating and repeating theories powerless to suppress habits born of necessity.

Rather look with some tolerance on the lesser evil, if you want to destroy the more serious one, and do not begin at the wrong end. While it is impracticable to compel women to propagate their race by telling them that their ways are evil, it is practicable to prevent them from falling victims to the health and life-destroying method, by using on them a harmless and not immoral method of avoiding the natural consequence of harmonious marital relations, until the time will have arrived—which moralists of to-day will not live to see, in spite of all their well-meant efforts—when all the women will want to bear all the children they can and with which they may become pregnant.

At present, the time of fecundity* is not ripe. In order to teach the women of coming generations, their mothers will have to be taught. We medical advisers owe it to the married women with good morals to protect their health and to guide them in the only possible way, if we want them to avoid the precipice of their destruction.

It is not the theoretical problem of depopulation that is most frequently understood as "race suicide," but the practical problem of protection of the health of the nation's mothers, with which we have to deal in everyday life. When a prominent authority recently writes: "The upright physician may be importuned by a wife worn out by frequent child-bearing and dreading the exhaustion consequent upon another pregnancy and labor, with the added fatigue of lactation and of caring for another infant—husband and wife covenant to bear the burdens, and to make such sacrifices as are demanded—even at the expense of loss of health," his standard as a moral adviser is unques-

tionable; but then the people's lady friend, who advises from her own experience that the woman have an artificial abortion done and keep her health, is apparently just as right—being the worse moralist, but the better physician, as she helps the sufferer to retain her health.

This shows how eminently practical the question is and how we, as caretakers of our patients' souls and bodies, are absolutely compelled to look for a sensible way out of the dilemma, simply because the seculum of ideal perfection has not yet arrived.

It is evident that the problem of "race suicide" is a complex one, embracing those of sexual hygiene, voluntary sterility, involuntary maternity, limitation of the licensed physician's practice, and diverse problems of morals and social equilibrium. The influence of the problem on political economy is secondary; illicit sexual relations are not a factor influencing the increase of population, as voluntary sterility is usually within the reach of those inclined to loose morals, and the offspring saved out of such relations have always been in the minority. No law nor punishment nor moral teachers have been able to change the prevalent social customs within the last two milleniums. They try in vain, as social evolution depends upon too many factors and requires too long a period of time.

The time, in order to keep pace with present-day hygiene, has certainly arrived when some serious men and women, who are competent to judge and to act by dint of their education, special knowledge, training, skill and character, should direct their thoughts to the existing conditions of Ignorance, Indifference and Vice.

Ignorance regarding facts of sexual life, pregnancy, labor, childbirth and motherhood; indifference on part of the medical

*As pictured by Zola in "Fécondité."

profession confronted with the fear of the ignorant woman, who exaggerates the annoying, painful, or injurious consequences, associated in her mind with propagation; indifference on part of the medical practitioner towards the needs of the woman who is left to help herself in the worst manner; vice, the consequence of both ignorance and indifference, in violating the laws of nature, ethics and society by trying to escape or helping the woman to escape the consequence of marital relations. We are here confronted with another "white man's plague," as sad and of as tremendous proportions and importance as were the ravages of tuberculosis until only twenty years ago, which had become a problem to society when, in 1890, coincident with our advance in knowledge, some philanthropic practitioners of medicine came to realize what a satisfactory task they had in grappling with such a fierce foe of humanity—what a heroic combat to venture—how precious the victory!

For the sake of the results to be gained, for the benefit of womanhood and society, in order to save family life, state and country from the fearful ravages of an ever growing evil, it is absolutely a duty incumbent on the active, practicing medical profession to enter into a combat against this new enemy, as fierce as any which we have as yet known to affront the health and beauty of our young women, and, I have a right to say, the health and success of our families. That enemy is the *habit* of the plurality of American women, married or not, to interrupt a beginning, or try to interfere with a supposed or dreaded pregnancy, the most dangerous of its allies being the *secrecy* with which that habit is practiced and condoned.

Because it is a plague which confronts us

and which we hate to touch, nobody has conceived the propriety of having among us, the custodians of public health and of the future of our own country, a few thorough specialists, trained in the most complete manner as surgeon-gynecologists, who will make those cases their special study which are the outcome of that sad habit deeply rooted in the American domestic life, and more thoughtlessly and generally practiced by the women of our country than by those of France.

Those who have studied diligently the question, not only occasionally but with conscious intention, will agree with me that it has become a *social problem*, that it has only lately reached a climax, and that it can hardly find more general expansion.

I do not propose to try to uproot existing conditions—it would be a fruitless task—since there are too many burning questions involved which complicate the duties confronting the present-day medical man, but I claim as our sacred duty that, while we cannot always prevent, we should at least diminish, the evil, and direct the pitifully helpless victims, and save them from public exposure and from the neglect into which we have condemned them as unworthy our attention. *Ignorance* and *indifference* on the part of young practitioners, who have no knowledge of life, no understanding of social questions, and, frequently, not even the faculty of practical thinking or of seeing the problems of every-day life, are the chief reasons why the victims of race suicide are set aside as a class of patients who, like the victims of some plague, must not be touched.

Among some competent men with large experience, it is even snobbishness: they think it beneath them to give aid to individuals who are helpless in consequence

of their foolishness, often having committed the worst breach of the conventions; and they pose as belonging to a superior class of the profession because they "never bother with such cases," according to their own avowal. At least it is thoughtlessness, when they follow the rule of frightening away, without any consideration, those women who seek their advice.

Of course, those gentlemen, and we all, are right in scoffing at the insinuation that we might be considered to be obligatory servants or willing tools of the whims of the public, especially in a seemingly immoral issue which conflicts with the social law. I say "seemingly" immoral, because few of us have studied its moral. Certainly the married woman with several children can be protected when the question grows serious. Surely some law is necessary. Instinctively no woman will want to hurt herself, neither morally nor physically.

The ignorant and innocent young woman more than the experienced woman needs urgently the protection of law. But, please, tell me, where was the protection for the average misguided woman—no matter if strong-minded and intelligent, or feeble and morally weak—who would go astray into one of the fortune-teller's or masseur's dark boudoirs, reeking with filth as I have seen some, and often disgusting to any sense of decency? And still no law seems to have had power enough to suppress those. Wiped out in one place, the same individual would, for the lust of evil money, rise in another couveuse, working and thriving in secrecy—until he or she would have delivered the death blow to another victim and, frightened, take to flight.

Women who have been unfortunate, must be told by their physician that such manslaughter is no longer perpetrated, and that

no one is a medical practitioner who does not exhibit his license. Every woman who considers having an artificial abortion done and, provided she has a legal right to consider such, induces herself to have treatment from some medical practitioner, has certainly a legal right to be treated and attended by a well-tested, licensed medical man or woman of proven skill; if the regular practitioner is not available and is in danger, under the present law, of injuring or risking his good reputation, the woman is necessarily driven to seek aid at illegitimate quarters, to her own detriment.

As long as the present law is in operation in its most rigorous form, in the majority of states, not in all of the states, forbidding a physician to advise preventative means, the women who have committed artificial abortion are in danger of neglect as much at the hands of the licensed practitioner as the unscrupulous old-time advertising "specialist." The latter, as well as the regular physicians, as I have observed in my own experience, having actually seen it done, leave their patients under the worst conditions; abandon the case when they become afraid that they may have made a mistake or done harm or met with an unusually serious accident.

The patient herself, ignorant, and conscious of having done some wrong, or ashamed, like the young man who has contracted a gonorrhea and feels ashamed to own up to a physician, remains in a helpless condition and arrives, generally too late, in the hands of a competent specialist, or dies in front of the doors of a charitable hospital. Again, as many regular physicians dislike to continue the work left undone by some predecessor in a desperate case, the ill-advised women are entirely at the mercy of the gravest dangers.

Up to the present time, special knowledge in dealing with this class of cases, particularly when they have taken a very serious turn, is rare among even widely-experienced practitioners, because nothing attractive can be found in it, while there is a ban on such cases as being unethical. That knowledge on the subject was generally wanted and needed, was demonstrated by the large crowd of practitioners who filled the lecture hall at the Academy of Medicine of New York, November 23, 1905, when Dr. H. Boldt read a most interesting paper on the treatment of abortion, and in no more complete manner could the knowledge necessary to the medical practitioner have been imparted. That night, I certainly wished that Dr. Boldt could have been able to impart his surgical skill to every practitioner concerned.

In our country, *gonorrhea* is so generally spread and instruction regarding social diseases, their modes of contagion and serious consequences in married life such a forbidden subject, that those couples who would want more than one child, can only have that one, and no prayers nor skilful surgery will overcome the difficulties in the doomed cases. I do not mean to say that the disease barrier to more children is generally set by an unprincipled husband; (the subject "Social Diseases and Marriage" finds very competent treatment in a thorough book written by Prince A. Morrow, M. D.) no, it is the smaller proportion of instances of race suicide for which *gonorrhea* is responsible, voluntary sterility by artificial abortion being its larger factor.

THE EVIL OF ABORTION.

Sad things, indeed, I have seen during the four years in which I have become acquainted with what I might call the "Un-

derworld" of the practicing "Doctors," so-called and self-styled "Doctors" of New York. Since early in 1904, I have quietly and personally made the round through a number of the famous "Specialists'" dens and dives, have corresponded with others, studied their characters, their tricks and wiles, treated their cases and exposed myself to all sorts of insult,—even to assaults endangering my life,—to misrepresentation on the part of agents of my own profession, whom I have seen, for years, struggle in vain to gain their ground with the misled women and to annihilate the evil.

It is widely known that early in 1906, when I had come forward boldly, supported merely by the result of my work, assisted mainly by one intelligent woman who had never failed in her courage and good will to help me locate the sources of evil and to save women's lives under the most adverse circumstances, I divulged to the medical profession of Greater New York my intention, then in an experimental stage, but proposing a possible plan, the "Maternity Aid," to improve the conditions of especially the ignorant class of pregnant women. Through a circular letter, intended to arouse the profession sufficiently to remind them that they had left some duty undone,—since they appeared to be ignorant of actual conditions, and, having no remedy, were hiding behind a let-alone policy,—there arose one determined act initiated by the legal representatives of the Medical Society of the County of New York, which prevailed upon the New York daily papers to refuse pernicious advertising.

Most of the unscrupulous sharks speculating on the usage prevailing among American women to frustrate the natural issue of marital copulation, fled from New York

(the use of the mails being forbidden to them). At that moment, I was approached by several of the remaining quacks who did not know what to do with their victims. Again I had the satisfaction of saving lives of patients who were nearly ripe for the coroner. Had I refused to take care of those patients, I should have been guilty of serious neglect, and such neglect is not unusual. I have seen colleagues called to such cases literally run away without attempting even to aid the victim. After suppressing the advertising in New York, not much else was changed even at that critical moment, the remaining "Doctors" keeping their dens in exactly the same desperately dirty condition as they had been before,—in some of them new faces appearing; most of them continuing their well-established business.

How obstinately those fellows stick to their policy, how blind they are to their own shortcomings, and how much convinced of their legitimacy, appears from one instance where I took, with my own hands, the sign calling the non-licensed man "Doctor," deceiving the public deliberately, from his window and broke it across my knee, declaring that I would have a legitimate sign made for that wrong-doer. He did not give me a chance, threatened to prosecute me, and, in a few days, a new sign with the "Dr." boldly in front of the name, was up in the same window.

In disgust, I went to Connecticut, looking over a number of disorderly farms, pretending to bring up waifs, where at least the intention prevailed to save life instead of strangulating it *in utero* at 5 or even 6 months for a bribe, and where they nursed babies to live for a time at a prize, the latter being frequently the very babies' bodies and souls. Better, seemingly, had they too

been killed in the embryonic state. In New Jersey, I found conditions so horrid that I almost despaired of any hope for the near future. Some of the most desirable sites for homes and the most beautiful natural scenery, I found infested by the cottages, or already, to judge from the style of some buildings, voluntary penitentiaries in which brutes of midwives hide their victims, despoiling seashores and polluting brooks and lakes with the offal of their daily bread-winning labor,—enshrouding in a somber veil the beauty of our glorious bright country which ought to belong to the American youth, full of life and bliss!

After some three years of actual experience in every phase of the practice of the "Underworld" of New York physicians and of some of other states; after particularly having studied the results of the abortion practice, by way of a private secret service, supporting, from my own pocket, a small staff of clever people; often working day and night, without the objects of my observation suspecting my purpose, or, I dare say, my mission, I became so discouraged learning how invincibly the spirit of evil ruled, that the idea took hold of me that the interest of the rank and file of the American medical profession must be won for a crusade, in order to absolve and awaken the women directly and in an effective manner.

That is the reason why I wish to give you the benefit of some of my experiences which I had made by deliberately and perseveringly studying one of the most unpleasant chapters of the social life in one of the most important and leading cities in the world. If the active members of the American medical profession do not want to condescend to arrive at thorough information on a matter of such vast social importance, the protect-

ors of society will labor in vain to eradicate the existing evil.

Under the present conditions and custom, nothing, no law nor power, no sacred oath, no liberal marriage law, no concessions to free love, no tenets of religion, will have the desired influence in a great many cases where pregnant women are the blind slaves to the general bad habit and generally excused and socially sanctioned sin, the "American sin*" as Dr. Pomeroy has called it in his book.

THE LAW AND THE REMEDY.

We shall now consider the law in reference to the problem of race suicide, examine what it does and what it does not do, and what it ought to do in order to assist, as Herbert Spencer expresses it in his Social Statics, "The Formula of Justice," the conditions essential to Human Happiness, etc., saying "The negative element, resulting from the limitations imposed by the presence of others, is represented as secondary, the positive element—the right to freedom of action—is represented as primary."

According to Wharton's Criminal Law, ninth edition, 1885, we find the following in regard to the common law on this subject:

"Sec. 592. At common law the destruction of an infant unborn is a misdemeanor, supposing the child to have been born dead, though if the child die subsequently to birth from wounds received in the womb, it is homicide, even though the child is still attached to the mother by the umbilical cord. Destruction of the infant after quickening is agreed on all sides to be an offence at common law; though *whether it is so before the*

infant has quickened has been doubted at common law."

The different states have very divergent statutes punishing the attempt to perform abortion ("criminal" abortion not to be confounded with "therapeutic" abortion) some imposing only fines; others, fines and imprisonment; some few punishing the woman—the state of New Jersey apparently having no penal statute on the subject. That the law in our country must be inadequate, is proven by its inefficiency, as we have seen in discussing the existing conditions, and as is plain from the fact that the evil of race suicide continues in spite of everything.

The reason is obvious, as, for years past, the medical and legal professions, both, have been very indifferent to and, as we have seen, ignorant of the existing conditions, their members being too busy trying to make a living, too little appreciated in their efforts, working for the best interest of society, and too poorly paid.

T. Hall Shastid, M. D., L. L. B., in a paper published in *American Medicine*, October, 1907, "What is the Primary Cause of Mal-Legislation and Non-Legislation with Regard to Medical Matters?" says: "All Doctors are agreed that very much is awry and even positively lacking with regard to legislation in this country concerning medical affairs," and further: "The absurd, the ridiculous, the absolutely unutterable character of the instruction (more commonly the total absence of instruction) which is given on legal medicine and allied topics to-day in American schools of law." The lawyer, who had an appropriate course of medical study in his law school days, would certainly be a better lawyer and also a better legislator. Unfortunately, society has been asleep as yet to what is required for its own

*H. S. Pomeroy, M. D.—*The Ethics of Marriage*.

benefit. As a consequence of this neglect, the law is antiquated and needs sorely to be revised.

According to our law, it is considered a crime on the part of even a practicing physician to prescribe means to prevent conception,—if justly so, depends on the state of civilization and intelligence of the nation confronted with the question that consents to such a statute. Were it left entirely to the discrimination and judgment of the physician to do as he thought fit, much worse could certainly be prevented. These are the ideas of the editor of a prominent medical monthly, called "A Journal of Individuality with the Policy of Truth, Honesty and Fairness."

"Because I know of thousands of families who would be perfectly happy if they only knew the proper method of regulating the number of their offspring. Because I know of thousands of young men, who, restrained from marrying by the fear of too many children, have in consequence contracted venereal diseases, or have become addicted to dangerous sexual irregularities.

Because I know of thousands of women who have become incurable invalids by improper attempts at prevention.

Because I know of thousands of men who are pitiable sexual neurasthenics from *coitus interruptus* which they practice through ignorance of better methods of prevention.

Because I know of thousands of women who have actually killed themselves, have been driven into early graves by abortions or attempts at abortion.

Because I know of thousands of children, born of epileptic, syphilitic, or tuberculous parents, who should not have been born at all, etc., there is no single measure that would so positively, so immediately contrib-

ute towards the happiness and progress of the human race as teaching the people the proper means of prevention of conception. This has been my sincerest and deepest conviction since I have learned to think rationally. It is the conviction of thousands of others, but they are too cowardly to express it in public."

That the law does not succeed in suppressing the evil, we have seen in analyzing the prevalent conditions. It does not suppress malpractice, but simply scatters it. It is distinctly the fault of the law that the average medical man refuses his aid when it is the most wanted, and that it has become a common rule to frighten the woman away without analyzing her case, and without considering that his advice will be little heeded, that he condemns the woman to concealment and secrecy, to the gravest risks and dangers. That the inefficient application of the law is the most dangerous is evident from the fact that, after a public exposure and after administering the law using legislative force, those women who are determined to have their own way, will go about their forbidden enterprise with still more secrecy than was customary, and will run still greater risks than ever before, making public control more impossible.

The existing law, although necessary as far as the woman is concerned, is not obeyed by her. No law prevents a woman, who is determined to escape her pregnancy, because she need only have been instructed by some other experienced woman how to commit autoabortion. C. G. Cumston, M. D., in his paper "The Medico-Legal Aspects of Autoabortion," read at the Massachusetts Medico-Legal Society, October 7th, 1903, says:

".....that this is not unusual nor of modern date is evident if one will read Dr.

Hugh L. Hodge's lecture on criminal abortion, published in Philadelphia in 1854. Autoabortion, although hardly mentioned in the classic textbooks on medical jurisprudence, is nevertheless far more frequent than is generally supposed. The women use some rigid instrument like a knitting-needle, a catheter or a penholder while in a crouching position and, no matter what position the uterus may have, succeed in a large majority of cases . . . the conclusion can be drawn that, during gestation, the condition of the cervix would facilitate the entrance of an instrument within the uterine cavity, and consequently render autoabortion an easy matter in most cases."

Should we have such a woman punished? I have read that some have been occasionally arrested, but never heard that any had been punished. We cannot forbid any woman to do to her own body whatever she sees fit to do, although we may punish her, the same as a suicide. But there is no law severe enough to prevent a woman from having an artificial abortion, because, logically, before we try to maintain a law compelling a woman to bear a child which she does not want, we ought to frame and maintain one which forbids and punishes her having sexual intercourse.

As experience has amply proven that legislative force is powerless to remedy the evil, as all the best authorities on sociology and ethics can only give advice, but not a final remedy for a radical cure, as the time has not yet arrived that, out of social conditions, a change can be evolved spontaneously, nothing is here possible but compromise based on consideration of the special circumstances.

To the members of the medical profession society must look for the final remedy. To use Dr. H. S. Pomeroy's expressions in his

book "Ethics of Marriage," which apply most fitly to the situation: "Difficult and delicate problems await us in the near future; some of these seem, indeed, too difficult for us; but the history of the past and the present should make us hesitate to declare any one of them impossible. It may seem Utopian; nearly all ideas that are a certain distance in the van of popular consensus are considered to belong to the land of visions; yet most of the hard facts and well-proved theories of the present served an apprenticeship to Utopia in their youth, etc."

If society would insist on having and framing and passing a new law, one must not forget that we do not establish a new routine, law or regulation by an act of legislature, such an act being merely one little step in the onward march of events toward a landmark in social evolution. Continuous and sustained effort of every individual medical practitioner to influence every woman and everyone concerned in the problem, and to educate them personally into a new way, telling them, when they doubt, that "there IS a new law," is the only method by which we can hope to establish a new law, and after sufficient persevering effort, we shall find it working automatically. "Transformations are not brought about by the power of the mob, but by the power of the individual," Medical Education, by Graham Lusk; the *Jour. Amer. Med. Ass'n.*, April 17th, 1909.

Absolute moral perfection will not be attained, therefore compromise. The remedy must act gradually and persistently like in a chronic ailment. No surer method will suppress illegitimate practitioners.

One reason why legislators have paid so little attention to the shortcomings of the law discussed before, is that the opinion still prevails quite generally, although un-

supported by sociological or scientific deliberations, that we need the quantity of offspring regardless of quality. That such an opinion is growing already obsolete is proven by the tendency of a clear-minded, advanced medical profession to prevent the continuation of a diseased race as a burden to society, which has found its expression in the proposal of a medical certificate of health for candidates for marriage. This would enable conscientious physicians to properly protect society from many of the evils that now afflict it.

We should have a right to prevent tuberculous, syphilitic and imbeciles to be born. Also regarding the illegitimacy of children born out of wedlock, the views of society have become considerably more liberal than they used to be; as a consequence, women will be more readily induced to give life to children to whom it used to be denied on account of a prejudice now largely overcome. One reason more why the quantity of offspring will not be lacking, is that society and the medical profession will give more deliberate consideration to the quality. But this is one of the Utopians referred to before.

Among the instructions which it will be a duty of the medical practitioner to give at every occasion, that in the proper use of preventatives (anticonceptional means) will be preeminent. He will also especially emphasize the fact that no conscientious legitimate practitioner of medicine will make it his business to do artificial abortions, in order to humor the whims of the public and conspire with thoughtless and immoral women to defeat the object of marital relations, but that a highminded, morally firm and scrupulous physician (to which qualities we are all aspiring) is not subject to the

law in the same manner as those for whom it was intended; that society and justice trust the practitioner whom they have given permission to care for people's health, and take their most precious possessions, life and happiness, into his hand, so implicitly that they leave it to his judgment to do always what he thinks is the best thing to do in each individual case.

In cases for which the consulted physician does not want to take responsibility, he shall make it his duty to call a council of some relative, husband or any responsible person on whom the woman is dependent, or their representative, preferably a lawyer, and of a health commissioner detailed especially for such services, which council shall have legal power and by whose decision any court of justice shall abide.

By proposing this plan, the author intends to submit the possibility of an effective remedy against the practice of criminal abortion to the medical profession for general discussion. Having followed and participated in the discussions of that subject by the several medical and medico-legal societies in the city of New York during 1905, 1906 and 1907, the author can state that the common consensus of opinion of the medical and juristic professions is that each individual case must be left to the responsible medical adviser to treat according to his best judgment, that the only certain way to prevent criminal abortions (as the author suggested in one of the discussions), would be to place every pregnant woman who contemplates having an abortion done in order to escape the consequences of illicit sexual intercourse, into the custody and under the observation of competent, carefully selected professional attendants of an institution, which she could not leave until she had borne her child. There is no law which permits

us to deprive such applicants of their liberty, but if we had suitable self-supporting institutions, under government protection, the method would be reliable and easy to apply in most of the cases. The only practical remedy at our command, is to make all the women understand that there is no necessity for them to take refuge with some secret abortionist, but that they may confidently visit the office of their own physicians or of any respectable, regular practitioner for advice. If our consulting rooms are forbidden to them, we have not even an opportunity to influence them to their own best, or, as the author advises, to take charge of their cases and place them at the first suitable moment into one of the institutions intended for such cases.

If, among the commissioners of health, there were enough women physicians, who could be consulted in such cases, no doubt the applications to practitioners to have a supposed or dreaded pregnancy interrupted for selfish reasons, would not increase, but decrease; exorbitant fees would be abolished, because the time would be over when bribery was possible, or a physician could be convinced, in doubtful cases, by nothing but an immense fee that he had to treat the case, regardless of other considerations; or would take a fee for a prescription with the certain knowledge that it would be useless, or otherwise for services not rendered.

The serious dangers consequent to secrecy will be avoided, as soon as women learn that any reputable physician will not hesitate to give her case the same professional consideration as he would to one complaining, for instance, of a venereal disease, and that he has a right to suggest means to prevent conception.

In order to avoid one dangerous conse-

quence of leniency, which may render the woman who escaped too easily careless and her conscience obtuse, I should suggest that parents, or a guardian, must help, by remaining in contact with the practitioner who took care of the case; that the latter, who certainly must have received an appropriate fee in advance, must take the additional duty upon himself of keeping the woman under his personal observation and control for a long time after,* exerting a moral influence which no law can exert, every physician being as a rule a missionary in his own field. The social order can assist, causing the police to detail men or women of the secret service for the purpose of surveying women who show an inclination to indulge in the "American Sin," such public servants to co-operate with the physician.

Among the means to introduce a new order, the most powerful one is in the hands of the medical practitioner who can best educate and instruct the women with whom he comes in contact that it goes with his duties to consider their confidential troubles, that concealment is prejudice, as nobody is more competent to advise under any considerations than the regular practitioner of medicine. That particularly the scrupulous physician can be relied upon implicitly to do what he thinks is the best thing to do; that in doubtful cases, he bring about a consultation of three in the best interest of the woman making application; that every physician go by these suggestions, acting as if such had always been the usage,—practical application of a new routine, law or regulation being the quickest means of educating the large public.

*This can be done by having the patient come to the office for the doctor applying anticonceptual means for so long a period of time as is necessary to keep her from becoming pregnant.

As a matter of course, a physician must never give the means of preventing conception into the hands of a patient, but must apply them judiciously at his office for immediate needs during a few days at a time and keep the patient under his careful observation. He must explain that if his instructions are not conscientiously followed, the only safe means employed by him are liable to be injurious and that he advises the use of any preventative under his deliberate guidance, not as a license to lewdness, but as a temporary relief and as an important curative means only when absolutely needed. This plan obviates at the same time the forbidden handling of means to prevent conception of which druggists are sometimes guilty, but which is at present the only recourse for many women neglected by their rightful advisers.

In conclusion, there is no doubt that the medical, legal and educational professions must unite in taking proper action; they will approach the ideal of a remedy only if they combine their experience as well as their endeavor to understand all the phases of this problem, by discussing it frankly and without prejudice in appropriate meetings, being guided solely by the principle of altruism, which, marking their life work, entitles them to the privilege of being the noblest class of men and women, governing largely the happiness of all humanity. For no other did I intend to write.

DISPENSARIES.¹

BY

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It is the duty of every practicing physician to relieve, if possible the sufferings of such as apply to him for treatment, ir-

respective of such charges as he should be entitled to for his services. With the acceptance of the responsibilities of a profession, second only to that of the ministry, this duty should be the first and most important consideration.

To be sure the fees for services are necessary to most of us that we may carry on our work, but the fact that a patient is not in such a financial condition as to pay for attendance should not in any way influence the physician in his care of such a case. For the care of the poor dispensaries have been generally established and in my opinion have been the cause of great harm as well as good. The medium classes in a majority of cases either believe that the attendant doctors are paid by the city or, worse yet sacrifice their pride and take charity services for which they could pay something, thinking that they will be attended by a prominent man, rather than go to the office of a younger man in the profession who needs the work and would be satisfied with a smaller fee than the one in charge of the dispensary work. Here you see two wrongs have been done. First the patient has been pauperized and second the young practitioner has been cheated of the case which should legitimately have been his. I appreciate that students should have practical experience before they are turned out on the general public, but could not that experience more profitably be obtained in tenement house work, or by being assistant after graduation, for a period, to a physician blessed with a good practice? The harm done to the pride of the patient I think is the greater of the two, for after a few experiences what little self respect existed at first is totally destroyed and the patient comes for further treatment without a

¹Read at the annual meeting of the Western New York Homeopathic Medical Society held in Rochester, N. Y., April 9th, 1909.

blush of shame, and furthermore advises his friends that it is not at all necessary for them to go to a doctor's office and pay for advice when it can be had for the asking at the dispensary. The objection may be raised that we do not want, or cannot afford to fill our offices with the poor and too frequently uncleanly; that our class of office patients would take offense. True, but is that necessary? Cannot we either set aside an hour for such patients or refer them to some one younger in the profession who would be glad to get the practice? The fact of herding the poor together like sheep in a place placarded as a charity institution takes away from the act all the virtue and self conscious satisfaction that should accompany a true charity. Again the number of patients who are unable to pay something for their treatment I believe to be exceedingly small, whereas the number of people who are willing to take something for nothing is very large, and I believe that fact is largely the result of the dispensary education that has been extended to the public for so many years. Understand please that I believe in doing charity when necessary and believe in it so thoroughly that I would have little respect for any one in our noble profession who refused to care for one who could not pay, but I also believe that it should be done without ostentation or show. I believe that I care for as many charity patients in proportion to my practice as any of us, but they are seen in my office, taken in in their turn, and no one but the patient and myself knows that they pay me either nothing at all or a fee so small that they may feel that they are not paupers. I might quote many cases where conditions were such that frequent visits and constant watching were necessary to insure a successful issue, and

where patients were in no position to pay for such care, and where in the end I have made a charge ridiculously low considering the number of prescriptions. Such patients pay usually with many more expressions of gratitude than those paying a regular charge and not infrequently refer others either for treatment or operation who can and do pay full prices. Taken then from a purely selfish point of view does it not pay better to treat such cases in one's office?

As to the abuse of the dispensary it is hardly necessary to touch. I had a man come to me recently from a neighboring city who frankly stated that he had applied at a dispensary for examination of his eyes but was too late for the oculist in charge. He said that he was foreman in the shop where he was employed and could not take another half day off from his work. I refracted him and without a murmur he paid my regular fee. He was dressed in his working clothes and would have probably been received and cared for at the dispensary without a question, or if questioned would very likely have lied as to his position.

I have no suggestions to make as to the correction of dispensary abuses beyond those stated in this brief paper, but I hope these few remarks may bring out a free discussion.

188 Franklin St.

ACTION OF GLANDULAR EXTRACTS UPON DIURESIS.¹

BY

ISAAC OTT, M. D.,

and

JOHN C. SCOTT, M. D.

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In a series of experiments upon the lower animals we have found that the parathyroids, pancreas, thymus, iodothyrene, pituitary and renal extracts produced an increase in the quantity of urine. Schaefer

¹ Preliminary note.

has noted that the pituitary did this and practical experience has shown iodothyrene to produce it in man. We found the most powerful of the extracts to be the parathyroids. In some cases the amount of urine was increased tenfold. This augmentation was due to a direct action on the secretory epithelium of the kidney as it occurred in the usual lowering of arterial tension by the parathyroid. We might add that the nucleo-proteid of the parathyroid increases uterine contractions and intestinal peristalsis. We have to offer our best thanks to Dr. William N. Berkeley, of New York, who furnished us with some of the nucleo-proteid of the parathyroids.

Physiological Laboratory, Medico-Chirurgical College of Philadelphia.

CORRESPONDENCE.

NEGLECTED OPPORTUNITIES.

Bethlehem, Litchfield County, Conn.,
 July 16, 1909.

Editor AMERICAN MEDICINE.

Dear Sir:

It was with a great deal of interest I read extracts from your recent issue on the Doctors' Problems Becoming Serious. I have been trying for months to get a young doctor to locate in the town of Bethlehem, or near here, as there is a constantly increasing practice among the farmers as well as among the "city people" now coming into this region more and more every year. The answers I have gotten from the young men I have written to was that they did not like the idea of country practice, travelling in a rig at all hours of night and day, over the country roads, winter and summer. If there are 60% of the doctors who are not making \$1,500 a year, as you state, then it seems to me that I must have written to only the other 40% who sneer at rather harder work, or that my correspondents were mostly fools. The old inhabitants say that the doctors who have located here in the past have always left with a richer pocketbook than when they started practicing here. Now that a doctor can run automobiles it is a very easy thing for one to get about the country easily. Living is cheap here, as is also rent. This is the time to start so as to get the benefit of the

summer business and there are two or three houses that can be rented for \$100 or so for the season, all furnished. A doctor located here could have his own garden, chickens, cow, horse, etc. His weekly expenses including care of these animals, outside of help, but including rent of a furnished house, would not be over \$8.00 or \$10.00, and the average doctor would no doubt want to do his own milking, gardening, etc., in his odd hours. This is a region that is developing very rapidly, on account of the beautiful country, air, convenience, etc. If you know of any good active young doctors who want to settle in a paying region I wish you would let me know.

Yours very truly,

EDWIN H. FROST.

ETIOLOGY AND DIAGNOSIS.

Hæmorrhages in the Later Months of Pregnancy.¹—The occurrence of bleeding from the uterus during the last two months of pregnancy is always a matter of serious import and may present great difficulties both in diagnosis and in treatment. Never a condition to be lightly passed over, it becomes one of the most serious import if the bleeding is due to placenta prævia, and the patient's life may depend upon correct diagnosis and prompt treatment. In general it may be said that hæmorrhage during the last two or three months of pregnancy is almost always caused by separation of the placenta from its site in a greater or lesser degree. Hæmorrhage caused in any other way is quite rare, and the bleeding then usually depends upon a new growth of the uterus. Partial separation of the placenta may occur coincidentally with new growths of the uterus, and, of course, in no way caused by the growth.

We propose to confine ourselves here to cases of hæmorrhage due to partial separation of the placenta. The reason why a normally situated placenta begins to separate from the uterus is not always apparent. Although in some cases a fall or a blow may appear to be the cause, in others there is no accident or injury to which the lesion may be attributable. The only uterine lesions which seem likely to

¹ The Hospital, June 26, 1909.

account for this are endometritis and sub-involution. In these conditions the endometrium, and therefore the decidua of pregnancy, is unduly vascular, containing thin walled dilated capillaries which look as if they would require only a very small alteration in the blood pressure to make them rupture. It is quite unlikely that any foetal condition would dispose to separation of the placenta. On the other hand, we have no difficulty in understanding why a placenta situated in the lower uterine segment must separate as soon as the internal os begins to open up under the influence of uterine contractions. As the uterine contractions do commence to open the internal os as early as the sixth month in some instances, it is clear that a placenta prævia may give rise to hæmorrhage as early as this. Given that hæmorrhage more or less has occurred, the question at once arises whether the condition is accidental or unavoidable hæmorrhage, or, in other words, whether the bleeding is from a normally situated placenta or from a placenta prævia. To find this out a very careful examination is necessary. If the lower pole of the foetus is the head, and it does not sink into the brim of the pelvis along with the lower uterine segment, there is at least a suspicion that the placenta fills the lower segment and prevents the foetal head descending. It is practically an impossibility to palpate the placenta from the abdomen. By the vagina with a *closed cervix* a placenta prævia may be suspected if there is a great thickness of tissue between the examining finger and the presenting part, especially if this is more marked on one side. Naturally, if the cervix is open, a placenta prævia can actually be felt if any part of it is near enough to the os for the finger to reach it. If, however, the os is closed, and a diagnosis cannot be made, what is to be done next? If we gradually insinuate the finger through the os, we shall be able to detect the placenta if within reach, but if it is not in reach then the case may be one of partial separation of a normally situated placenta in which possibly no further hæmorrhage will occur, and yet our manipulations will cause labour to come on. Consequently we may be in a dilemma in these cases; in some we *must* terminate pregnancy (placenta prævia), in others judicious treatment may stave off labour and

permit of the pregnancy going to full term, and yet if we bore the finger through the cervix for diagnostic purposes we shall probably terminate all alike. No definite law can be laid down in such cases; we must be guided by the hæmorrhage, its amount and its character, and whether it is repeated or not.

Early Diagnosis of Pulmonary Tuberculosis.¹—For a diagnosis of early pulmonary tuberculosis a careful consideration of all factors is required, viz., history, both family and personal; exposure to infection; occupation; habits; prior diseases; present condition, disturbed nutrition, appearance of skin, chest, pupils, gums, pharynx; the presence of structural changes in the apices; positive tuberculin test; agglutination test positive in dilutions of 1 in 10 and higher. We may add that we err less seriously in calling a patient tuberculous who has no active disease, than in eliminating tuberculosis from our diagnosis when it exists; an overlooked tuberculosis is far more serious than a nontuberculous patient treated as tuberculous, because the treatment will in any case tend toward a general improvement of all bodily functions.

TREATMENT.

The Treatment of Gastric Ulcer.²—Leube describes his routine treatment of gastric ulcer. There are four cardinal points: (1) Rest in bed from one to two weeks. This relieves the pain and promotes healing. After the tenth day the patients lie down two hours after dinner. (2) Karlsbad water, a quarter liter lukewarm. (3) Application of a hot stupe or thermophore to the epigastrium. The stupe must be changed every fifteen minutes and kept very hot. He never uses stupes with bleeding ulcers, as they are apt to cause a recurrence of the hemorrhage. During hemorrhage ice bags are used instead. (4) Light diet of high nutritive value and easy digestibility. All four of these factors must be carried out. By this routine he has reduced his mortality from 13 per cent. to

¹ H. J. Achard, M. D., Asheville, N. C., N. Y. Med. Jour., July 10, 1909.

² W. V. Leube, M. D., Deutsche Med. Woch., June 3, 1909.

2.5 per cent., and finally to hardly 0.5 per cent. In severe hemorrhagic cases Leube puts the patients to bed, gives one dose of 30 minims of a 1-1000 solution of suprarenal extract, places an ice bag on the abdomen, and quiets the stomach with bismuth and a hypodermic injection of morphine. He does not believe in giving eggs and milk to neutralize the acid. He says it causes the secretion of more acid, and therefore produces peristalsis.

The Abortive Treatment of Gonorrhea.¹—If a microscopic examination of the serous secretion shows desquamated epithelial cells and free gonococci (*first stage*), then abortive treatment may be advised, says Hayden, and at the same time the patient informed that it is liable to failure in some cases. Unfortunately, however, the vast majority of patients do not consult a physician at this early period, as they then consider their disease to be but a trivial and transitory affair, thus losing the only opportunity to destroy the gonococci and prevent their invasion of the deeper tissues.

Technique of Abortive Treatment.—The patient having voided his urine, the meatus and glans are washed with sterile water, a small soft rubber catheter is passed into the fossa navicularis, the patient compressing the urethra firmly behind this point to prevent the backward passage of fluids; then by means of the catheter and hand syringe (Fig. 1.) the operator irrigates the fossa with warm sterile water to free it of any remaining urine or secretion, after which it is distended with a solution of silver nitrate (10 grains to the ounce). In this manner the mucous membrane of the fossa, which is the seat of the disease at this period, is medicated with the silver solution and the gonococci situated upon its surface are destroyed. The patient is now instructed to rest as much as possible, put upon a light, nonirritating diet, both as to solids and liquids, and the urine rendered bland by still waters and alkaline mixtures. The bowels are moved freely by means of cathartic pills, and the penis and prepuceal cavity kept clean by frequent immersions in hot lead water. The silver application is followed in a short time by painful urina-

tion and a purulent discharge which, if the treatment be successful, subsides in a few days, leaving the patient with a slight mucopurulent discharge, which is readily controlled by astringent injections. If, on the other hand, the treatment has failed to abort the disease, then the discharge continues, showing under the microscope gonococci and pus cells in increasing numbers, the case now presenting the clinical picture of the acute or suppurative stage, in which event all further attempts at abortive treatment should be abandoned, and the patient placed upon the "conservative" plan of treatment.

Treatment of Gastric Ulcer.—Vomiting from gastric cancer (*Amer. Jour. Clin. Med.*) may sometimes be arrested by swallowing minute pieces of ice—though in postoperative conditions this often causes emesis. If the patient can afford it iced champagne is of service for prevention of emesis. Three or four drops of chloroform on pieces of ice will also check vomiting with some patients. Where there is great pain as well as vomiting 1-100 of a grain of hyoscine hydrobromide with 1-4 of a grain of morphine hypodermically, every four to six hours, will afford relief. If vomiting is frequent irrigation once daily with slightly salted water will give much comfort, and it also is of benefit in late diarrheas. Saline laxatives are to be avoided.

In a patient giving a history of limping on exertion, with pain and cramp in the leg muscles, it is important to bear in mind the possibility of his suffering from intermittent claudication. The absence of pulsation in the posterior tibial and dorsalis pedis arteries and the subsidence of the symptoms during rest are strongly confirmatory in the diagnosis.—*Int. Jour. of Surgery.*

In cases of hemorrhoids the use of a suppository containing five grains of extract of hamamelis to ten or fifteen grains of cocoa butter, inserted at night, often acts beneficially by allaying irritation and serving as a protective and lubricant during defecation.—*Int. Jour. of Surgery.*

¹ James R. Hayden, M. D., *Med. Record*, July 17, 1909.

GENERAL TOPICS.

The Physician's Demands on the Pharmacist.¹—An excellent article by Bastedo concludes as follows:

The good pharmacists are doing much to improve the conditions of the practice of pharmacy. Through their efforts, and theirs alone, there has been a great advance in the educational requirements of the pharmacist. But the fact remains that the efficient and conscientious pharmacist is suffering for the faults of the inefficient and unscrupulous; for the physician has no satisfactory way of distinguishing them. As to how far we physicians can help ourselves in these matters, our success in improving the milk supply may offer a suggestion. A few years ago there was no satisfactory distinguishing mark between the good and the poor milks. Now we have certified milk, which is produced under conditions laid down by the milk commission of the county medical society—conditions as to care of cows, stabling, milking, bottling, etc.—and which on occasional tests is found to conform with certain high standards. All specimens of milk can not be tested, but it is found that milk coming from dairies so controlled is very uniformly of high quality. For the benefit of pharmacy and of medicine I hope that the day is not far away when we shall have "certified pharmacies," i. e., pharmacies the prescription departments of which are arranged and conducted according to certain practicable specifications laid down by a pharmacy commission of the county medical society, with the advice and counsel of the best pharmacists. The good and conscientious men of the pharmaceutical profession will welcome such distinction; and some of those who are not naturally good will develop a conscience under the new incentive.

To sum up: The things that the physician demands of the pharmacist as a dispenser of prescriptions are: first, pharmaceutical ability; second, responsibility and carefulness; third, a proper ethical attitude towards the prescription and the prescriber. And we might add, a method by which the physician may distinguish the sheep of the pharmaceutical fold from the goats.

¹ W. A. Bastedo, Ph. G., M. D., *Druggists Circular*, July, 1909.

NEWS ITEMS.

Lowest Death Rate Since 1860.—The death rate for New York City for the first six months of 1909 is lower than it ever has been since 1860. The death rate in 1904 was 22.08; in 1905, 19.04; in 1906, 18.88; in 1907, 18.99; in 1908, 17.59, and in 1909, 16.92. In 1904 there were 210 deaths from typhoid fever, but only 169 in 1909. There has, however, been a notable increase in the number of deaths from organic heart disease. In 1904 there were 2,656 deaths from cardiac disease and 3,673 in 1909. This year there have been 84 more deaths from sun-stroke than in all four of the preceding years.

Department of Public Health at Harvard.—Harvard University has announced the establishment of a department in its medical school exclusively devoted to the subjects of public health and preventive medicine, and the election of Dr. Milton J. Rosenau, now director of the Hygienic Laboratory of the U. S. Public Health and Marine Hospital Service, as Professor of Hygiene and Preventive Medicine. He will be at the head of the new department. Dr. Rosenau will begin his service at Harvard with the opening of the next college year.

An English-Chinese Lexicon of Medical Terms, prepared by Dr. Philip B. Cousland, has just been published in Shanghai. Though the author is an Englishman by birth, he has based his book largely upon the Medical Dictionary of Dr. George M. Gould, of Philadelphia, a high compliment to American scholarship. Dr. Cousland has recently published a translation of Prof. Halliburton's edition of Kirkes' Physiology.

The Medical Era's Gastro-Intestinal Editions.—During July and August *The Medical Era* of St. Louis, Mo., will issue its annual series of issues devoted to gastro-intestinal diseases. The July number will take up the usual bowel disorders of hot weather and the August will be devoted entirely to typhoid fever. These issues always attract considerable attention. The editor will forward copies to physicians applying for same.

Annals of Surgery.—The June number of this journal is one of the most interesting yet published by this enterprising organ under the direction of Lewis Stephen Pilcher, the editor. Twenty-six different articles representing the choicest collection of papers that were read at the meeting of the American Surgical Association, at Philadelphia, June 1-3, 1909, are published. The volume contains 344 pages which means that it is more than double its ordinary size.

American Medicine

H. EDWIN LEWIS, M. D., *Managing Editor.*

PUBLISHED MONTHLY BY THE AMERICAN-MEDICAL PUBLISHING COMPANY.

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Complete Series, Vol. XV, No. 8.
New Series, Vol. IV, No. 8.

AUGUST, 1909.

\$1.00 Yearly
In Advance.

The influence of flesh eating on endurance has been minutely and elaborately investigated by Prof. Irving Fisher, Dept. of Political Economy at Yale University. He apparently proves that a low proteid diet and particularly abstinence from flesh foods, causes an enormous increase in endurance, and by endurance he means the ability to keep a muscle or set of muscles in a prolonged state of contraction, or to contract them a great number of times in a short period. This conclusion seems logical, for he has carefully eliminated the factor of training or practice, which is able to force a muscle to do very remarkable feats of any kind.

The abnormality and harmfulness of endurance or extraordinary muscular contractions, is the fact which Prof. Fisher has ignored and which shows the injury of low proteid diet. Laymen almost invariably believe that the ability to make great or prolonged muscular contractions is a sign of vigor and health, whereas it is occasionally a symptom of nervous instability and shows itself in every degree among neurotics up to the point of the catalepsy of hysteria and hypnotism, or the spasms of childhood. The normal adult nervous system is able to contract the voluntary muscles for only short periods and not many times. Frequent relaxations for rest are imperatively necessary or dangerous nervous exhaus-

tion is the inevitable consequence. Only the unstable can, without special training, pour forth floods of what for a better term we call nerve force. In addition, these extraordinary muscular contractions place an unwholesome pressure upon arteries with the inevitable arterio-sclerosis and its subsequent cardiac hypertrophy, interstitial nephritis and shortened life. The types which Fisher thinks are the best are really to be pitied, and there is internal evidence in his papers that they are neurotic and abnormal and being made more so by the low proteid diet. It has been reported that athletes under such a diet were hopelessly beaten by those eating like their ancestors.

The endurance of normal savages is great or little according to the view we take of it. The male Indian for instance is compelled to exert himself tremendously for a short period in the hunt, and then requires that long rest, which the unthinking call laziness. The women must be the burden bearers to let the men be free to fight at a moment's notice to protect the tribe from enemies. She exerts herself at low tension, is not exhausted and does not require long periods of rest. Both have great endurance, or none at all according as we view it. Civilization causes the survival of male workers who possess the type of the female savage—long hours at low tension of intermittent

contractions, but no prolonged or exhausting tests. Unstable normal boys and abnormal adults have the male savage characteristics,—ability to exert great efforts for short periods.

The working power of male Indians and negroes can now be understood. Their endurance is of the primitive type. They can call forth great nervous force for short periods but are soon exhausted. They have great “endurance” in the sense given by Fisher, but are not fit for modern industrialism. This is why they are so frequently compelled “to lay off to rest up.” It is not laziness but physiologic necessity. The poor negro woman or squaw keeps on at low-tension labor as she has done for millenniums, and often supports a husband in “idleness” as she always has done in Africa. The Chinaman has undergone the greatest civilized evolution and is able to work sixteen hours a day at low tension. Attempts to make our Indians work the “white” way are generally failures; for he is nervously exhausted after a few weeks and must “rest up” while the white mechanic keeps on.

The future of the negro is thus conditioned by his nervous type. He is emotional like all savage types, for it is this characteristic which enables him to exert his full nervous force in times of urgent need. The stolid Chinaman for a very long time has not had need of such emotionalism as even our Indians possess. In addition, the primitive organization of the negro and Indian brain cannot be remedied by education, so that they never will have the necessary forethought to be other than the white man’s helpers. In return for this assistance, they must be guarded

like the children they really are both mentally and physically. They are the white-man’s burdens as well as helpers. With scarcely an exception, the “Indian” or “Negro” who has become a “success” in civilization, has white mixture—and generally much of it—the quadroon and the half-breed. The “higher education” of pure bloods of each race has proved a farce except in rare instances. All attempts to place negroes and Indians in competition with “civilized” labor, can therefore be only partially successful. They do not possess civilized male nervous systems, nor the highly evolved brain. The pure blood negro thrives best when directed by the white man’s brain; that is, he is doomed to perpetual servitude, and by servitude we mean service under white management. His vote should not be counted for he has not the brain to vote with—and by-the-way, many of our white trash are just as bad. Medical science can thus help political economy and the two should join hands to prevent a repetition of past blunders of statesmen ignorant of both.

The Church and the Negro was discussed in a series of wise editorials in *The Church Standard*, of Philadelphia, some years ago, and though now old they should be read by every physician, economist and statesman, as they give the theologian’s opinion of the dire results of the white man’s desertion of his duty to the negro. It is acknowledged that education fails to make a primitive negro brain grow into a complex white one, and that there is need of guidance to prevent the negro sinking into a primitive emotional religion which, like all lower religions, is divorced from morality. The writer has made

some mistakes, due to his ignorance of the scientific side, but his editorials show that the medical profession should not ignore the religious side, in its efforts to raise the negro's morality, happiness and industrial usefulness under white control. The work is urgent for the present danger is acute.

The riddle of beriberi seems to be as far from solution as ever. The matter is a vital one wherever rice is a staple article of diet, and though occidental physicians have a mere academic interest in it, there is some evidence that it is of practical importance to them also. There is a general impression that it is a toxemia whose results differ in no respects from the polyneuritis due to alcohol, the metals or the toxins of diphtheria bacilli. There was a hope that Hamilton Wright had discovered the bacillus when he described one resembling that of diphtheria, but he has not convinced all that it is the cause. Diet has always had its advocates, particularly in Japan on account of the success in prevention by merely increasing the nitrogen. Sometime ago Fales (*Jour. Amer. Med. Ass'n.*, March 2, 1907) reported success in ending a serious outbreak in the Manila prison, not by increasing the nitrogen, but by adding fruits and fresh vegetables, as though the disease was caused by a deficiency of potassium salts and was allied to scurvy. He does not deny that a living cause may exist, but that a body properly supplied with these salts is immune. The epidemic appeared after fresh things had been excluded from the prison ration on account of the prevalence of cholera. There are numerous old observations in line with

Fales' theory. A certain eastern berry or pea of the *phaseolus radiatus*—a common plant in Java—has been reported to have been used as a prophylactic or cure ever since the 17th century—something like the numerous cures for scurvy. Even chowchow and other pickles are said to have been used successfully.

The rice origin of beriberi seems to have the most adherents because the disease is exclusively confined to rice eaters. W. Leonard Braddon, in his official reports to the Colonial office (now also published in book form by the Rebman Co.) has collected all the available evidence, which leads him to support the old theory that it is due to poisons generated in stale rice by a parasitic surface fungus of some sort, neither a bacterium nor fermentation organism. Even changing the kind of rice often cures cases and stops an epidemic. He claims that other grains sometimes cause it, and that in all cases where change of diet has ended epidemics, it was due to the exclusion of infected rice. This probably explains the cases where the addition of fat has ended epidemics, and the well known fact that in soldiers and sailors a furlough home cures them. Though the etiology is far from being settled, it is a great practical gain to know there are so many ways of stopping an epidemic. The disease should no longer cause any worry, for like yellow-fever, it is now preventable even if the cause is hidden. Similar conditions of polyneuritis due to other toxins, should now receive attention, because it has been suspected that these have been mistaken for beriberi. Even alcohol neuritis has been mislabeled in the tropics.

The Seattle Exposition deserves more attention from the medical profession than has been given to it thus far. It is the first time there has been a demonstration of what Americans can do when they live in the identical conditions under which their ancestors flourished for so many millenniums. We have been in America less than three centuries—most of the families less than fifty years—and the new factors of climate and environment have already had a tremendous influence for good or evil, developing some types and destroying others. The facts are just now beginning to be noticed, though they have been noticeable for a long time. There is the dreadful heat of summer, the extreme or penetrating cold of winter, the increased sunshine, the high winds and numerous other factors so different from the mild cloudy climate which evolved us by nature's process of the survival of the fittest. It is now known that there has been a dreadful mortality of certain types and that we depend upon a constant immigration to keep up the stock—the types which have been thinking out the world's advances.

The prevention of suicide seems to be impossible and yet there are some deterrents. The 1909 report of the Medical Examiner-in-Chief of the Royal Arcanum, goes into the matter quite extensively and shows that when a rule was made to the effect that the insurance lapsed should the member commit suicide within five years of admission, the number of these deaths was lessened by half, while the cases in those of more than 5 years membership remained practically the same from year to year. There is no doubt of course that such an unnatural act as self-murder, is the very opposite of normal instincts, and

indicative of an abnormal, unhealthy condition. It is doubtful whether they should all be called insane, for there is considerable evidence that many, perhaps most, are merely suffering from an exaggerated depression of spirits, such as every human being experiences periodically though in minor degree. At any rate, they think that life is not worth living,—and not so very long ago, healthy men deliberately destroyed themselves in preference to living through a disaster. The same old Adam is in us yet, but it is possible that the shock of being found out as in the case of swindlers in high standing, does really cause a mental state which might be called insane. Whatever view we take of it, these new statistics show that the tendency can be restrained by knowledge that the act causes forfeiture of property and suffering to others. This deterrent effect does not dispose of the existence of real insanity, however, for the very basis of the modern management of the insane is a reliance on self-control through fear of punishment, hope of reward or other equally effective means. Only in a limited number, and they the worst cases, is self-control absolutely gone.

The age of most suicides is between 30 and 60, and this strongly suggests mental diseases, particularly those due to the overstrains of the working period of life. After sixty, we generally ease up and if we have been unsuccessful we accept our fate philosophically, but the younger and more ambitious man wants to end all. It does seem that the real prevention lies in the direction of lessening the struggle for existence. Men try to do more than nature intended they should, and exhaustion follows. They take life too seriously

and cannot relax for recuperation. There is a therapeutic hint in every suicide, but this one seems to be found in all. The medical profession can do more than they have in preventing suicide, by advocating more play and relaxation. Fun is as necessary to health as work, and we may find that the proverbially good natured fat men never kill themselves. They have too good a time. The typical suicide is the lean, underfed, over-worked, over-worried, playless fellow who enormously overestimates the importance of his own work, and whose brain is so starved that it can not do good thinking.

Dr. Thomas Alexander MacNicholl is intemperate in his rollicking comparison of New York to Sodom. He says we are bad, dreadfully so. Moreover he finds an appalling condition among the children,—and it is all due to parental or grand parental use of alcohol. Total abstinence is an imperative pre-requisite for salvation here and hereafter. Worst of all, he finds that 58 per cent of the children drink alcoholic beverages, and that we are going to the demnition bow-wows generally. If he would go to Germany he would find that nearly 100 per cent of minors use alcohol, and Germany is noted for the dreadful degeneracy of its youth:—a kind of depravity which is causing that country to take the lead in a lot of things—religion and science for instance. To be consistent, Germany's supremacy should be considered due to alcohol, if such logic has any value at all. If the energetic Doctor had gone a little deeper into the matter of New York's infantile depravity, he would have found another factor in 100 per cent of the parents—they all wear shoes or boots, therefore shoes or boots

must cause drinking habits to the third and fourth generation, and we should abstain from the use of foot gear. We do not advise excesses of any kind and we are sometimes on the side of abstinence, for there are occasions when abstinence is imperative, and that is abstinence from talking such nonsense as has been inflicted on the suffering members of the American Medical Association. If we investigate anything human, from corns to baldness, we will find a history of drinking in the majority of the families. The ancestry of the clergy will show the same, but did alcohol drive the descendants into the Church?

Dr. MacNicholl's former offense has never been sufficiently condemned. At the Boston meeting of the Association three years ago he stated to the Section on Hygiene, that army officers wanted the beer feature restored to the Canteen, because they pocketed the profits—a libel so criminal, it is surprising the American Medical Association did not compel him to retract and apologize or expel him on the spot. This occurrence must be kept in mind in the interpretation of anything he says on the subject of alcohol. There is no call for us to apologize for his utterances, for they bring their own refutation. It is amazing that total abstinence workers all fail to realize that by extreme utterances they destroy their own influence for good,—if they ever have any at all, but this outbreak is so illogical, that we hope the real temperance workers will call a halt on this misguided confrere.

The humor of intemperate temperance is not often evident because fanatics as a rule are devoid of the sense of the ridiculous, but when anything amusing is uncon-

sciously said, it is doubly enjoyable. In a remarkable address by Dr. MacNicholl, delivered to the W. C. T. U. at Hartford, Conn., a year or so ago, there is the usual flood of unproved opinions which have made this topic the scandal of science, but what makes this effort stand out as the best of its kind is the description of a man whose daily consumption of alcohol was one pint of claret, eight ounces of whiskey and one pint of beer, and who himself calculated that in forty years he had consumed fifty-seven barrels of claret, twenty-eight barrels of whiskey and fifty ten-gallon kegs of beer. This enormous amount did no more damage than "intestinal poisoning" and "alcoholic neuritis" of such a slight degree that the sufferer was apparently able-bodied and possessed of keen opinions—at least it is so implied. If such slight damage is due to immoderate amounts, what is the result of one tenth such consumption? If Dr. MacNicholl has a touch of humor, he would see the ridiculous side of his very unscientific papers, and stop shrieking about the awful results of the moderate use of alcohol. In view of the fact that Sir Dyce Duckworth and many other men of proved judgment advocate the moderate use of alcoholic beverages it is absurd to dogmatize one way or the other.

Alcoholic "temperance drinks" are creating somewhat of a scandal in English abstaining circles. It appears that under the demands of this cult, official analyses are made of all beverages, and a tax is laid on all containing more than two per cent of alcohol. It was found that the "soft drinks" often contained more than this minimum.

It is rather disquieting to learn that cer-

tain ginger and herb beers contain 10 to 12 per cent, and "dandelion stout" 12.3 per cent. A fair sized drink of these beverages is equivalent to four generous glasses of light beer. Doubtless this fact fully explains their popularity among people who crave such drinks but who believe that they never touch alcohol. It is time that all our beverages should have the per cent of alcohol plainly printed on the label and a liquor license required of dealers who dispense those containing any alcohol. Unless we do something of this sort we are quite likely to find that the bulk of the liquor traffic will fall into the hands of those who are working for the prohibition of the weaker beverages plainly sold as alcoholic.

The harmful possibilities from the indiscriminate use of acetanilid and other coal tar derivatives have been the subject of much discussion during the past two years, and thanks to the *Journal of the American Medical Association* and *Collier's Weekly*, not only the medical profession but the people at large have been thoroughly warned of their dangers. We must confess that the *Collier* articles were sensational rather than scientific and smacked so strongly of yellow journalism that much of their value was lost. Possibly this was necessary to arouse public interest, and much must be forgiven for the exposition of the fundamental truths. The *Journal of the American Medical Association*, however, has consistently tried to point out that these drugs, while exceedingly valuable when properly used, always call for caution, discrimination and judgment in their administration. Every physician of intelligence who has given any thought to the matter must have realized that this is the

only sensible view to take concerning these drugs about which so much remains to be learned. To countenance the indiscriminate use of acetanilid or phenacetin or many other of the synthetics by the laity—especially by the young, the old, or those weakened by disease—is a grave neglect of duty of those who know better. Relatively these valuable drugs may be no more, and even less dangerous than many other of the remedies used by medical men. It is unquestionably true that acetanilid, phenacetin and their combinations frequently enable the conscientious physician to dispense with morphin and other habit forming drugs, to the unquestionable advantage of his patients. We know several combinations of these drugs that are among the most useful at our command and that we should miss exceedingly if they were denied to us. But this does not change the fundamental proposition that their use requires care and discrimination, and that occasionally under the greatest caution their administration is followed by unpleasant and even dangerous results. Consequently the attempt of those marketing these drugs to deny their possibilities for harm is wrong in the extreme, and raises very ugly suspicions.

A bulletin recently issued by the Bureau of Chemistry on "The Harmful Effects of Acetanilid, Antipyrin and Phenacetins¹" well illustrates the good practical work that is being done along needful lines. The bulletin is most instructive and is particularly valuable because of its liberal and scientific character. As the authors state "The purpose of the inquiry was not to depreciate in any way the value of these

substances as medicinal agents, but rather to furnish information to the public which would enable them to understand that these remedies should be employed with caution in the absence of reliable medical advice. . . ." And: "The harm done by acetanilid does not result from its proper use under the direction of the physician, but is mainly the result of the promiscuous and indiscriminate use of the product by the laity."

Such a laudable object and such liberal statements deserve every commendation and we fail to see how anyone can take exception to this bulletin. It states the subject in an unbiased way and for this reason is the most valuable brochure on this topic that has thus far appeared. Pharmaceutical manufacturers of acetanilid, phenacetin and antipyrin should be most appreciative of such work for it will decrease the number of ignorant and ill-informed, and lead to the more intelligent and therefore more extensive use of these admittedly valuable drugs.

Pharmaceutical manufacturers have grave responsibilities, the question of coal-tar synthetics being only a small part of a greater proposition. It is to be regretted that within the past few years the sentiment that the pharmaceutical manufacturer was never honest nor trustworthy has been created and fostered. To a large extent this has been due to numerous abuses that had crept into the industry and to the militant, almost savage campaign of the American Medical Association against certain supposed or real evils. We have neither the space nor inclination to enter into an extended discussion of the methods that have been employed but we are free to say that in spite of many

¹ By L. F. Kebler, M. D. with the collaboration of Drs. F. P. Morgan and Philip Rupp.

things that have seemed to us questionable, we believe a vast amount of good has been accomplished. In some individual instances we have no doubt that mistakes have been made and injustice has been done. More than one instance has come to our knowledge where innocent and honest parties have been unfairly treated and attacked, according to our judgment and that of men whose opinions we respect. It is entirely possible in the work of the Council on Pharmacy and Chemistry that personal feelings have not been eliminated as they should in so broad and far-reaching a movement. But the point we wish to emphasize is that the general effect of this whole movement has been most commendably progressive and when the situation finally gets adjusted we feel that not only the profession but the pharmaceutical industry also will be greatly benefitted and placed on a better foundation than ever before.

Unwarrantable prejudices have been the most regrettable feature of the movement. That these were hardly to be avoided may be true, but they are none the less serious. We hope and expect that the constructive work of the Association along the line of therapeutics will dissipate these to a large extent, for the pharmaceutical manufacturer assuredly deserves something better than "knocks" at the hands of the profession. The unparalleled progress of the last quarter century in pharmacy, pharmacology and therapeutics owes a great deal to the men who have put their time, money and brains into the pharmaceutical and chemical industries. The interests have not been solely commercial, either, for thousands, yes hundreds of thousands of dollars and unlimited effort

have served no other purpose than to enrich scientific knowledge. The manufacture of vaccines, anti-toxins, sera and products of this class illustrates one interesting point. Without the capital, organized effort and commercial enterprise of the firms on whom we depend for this class of products, it is morally certain that the present wonderful development of these valuable methods for combatting disease would not be as evident as it is to-day. And so it is with many drugs and their combinations, and countless details of therapeutics of which few of us are conscious, but which if we only knew, have been evolved and made useful by commercial enterprise.

Such a valuable force deserves support, and when the indignation created by the exposure of flagrant abuses on the part of a few unwise manufacturers subsides, we earnestly believe the medical profession, the pharmacist and pharmaceutical manufacturer will appreciate each other's worth and have greater respect for each other than ever before.

The pharmaceutical manufacturer must realize that a new order henceforth exists. Secrecy concerning the character and quantity of active ingredients will no longer be tolerated by the intelligent physicians of the country. The good men are the busy men and the men whose patronage is the most desirable. Vague, indefinite or unwarranted statements concerning the character or action of a remedy will be fatal. Exaggerated or extravagant claims will repel and raise prejudices. As a matter of fact, plain statements of character, formula, action, uses and methods of administration will do to-day all that the wildest claims ever did. The great *desideratum* is merit. Any product or preparation that has real in-

trinsic worth will receive the support of the profession—and that without brass bands or fireworks. The advertising and descriptive literature should be of the highest and most scientific character, prepared if possible by a competent medical man. The maintenance of good faith in every detail is essential as never before. Finally we can think of no expression that carries our thought so accurately as that of the old Southern darkey who based his hopes for the hereafter on the fact that he had “always toted fair.” The pharmaceutical manufacturers who “tote fair” may count on the success that their products deserve. But those who do not—and we are glad to state that we know mighty few of this class—no matter how valuable their products, will always be hopelessly handicapped.

The widening sphere of medicine is the subject of a recent address by Dr. E. W. Taylor (*Boston Medical and Surgical Journal*, July 8, 1909) which deserves the most thoughtful reading. The whole paper is brimful of good common sense and points the way without spectacularism to the solution of many of the problems now confronting the profession. No one can read this scholarly article and not find therein a great deal of food for reflection. Truly, the sphere of medicine is widening and there never was a time when the practice of medicine in its broad application meant so much to every interest of society. Medical science has always been humanitarian in its ultimate aspects. It is only within recent years, however, that it has gone beyond the individual and taken up the broader interests of the state or community. With the evolution of the germ theory and the new impetus given to the study of the causation of disease, the medi-

cal profession suddenly awakened to the all important fact that the science of medicine could no longer be restricted to the treatment of the sick but must be extended to a much broader field comprehending the safeguarding of the well. Henceforth the practice of medicine took on new duties and stood in a new but infinitely wider relation to society. Countless medical men realized that they were students, not only of disease, but of life itself with all its limitless ramifications. That the civilized world has gained to a wonderful extent from the newer conceptions of medicine is apparent in almost every hamlet under the sun.

“**New occasions teach new duties**” and it is quite as true that new duties give rise to new inspiration. There is something almost intoxicating to the ambitious student who looks over the field of medicine and sees what possibilities are his. What untrodden paths to investigate, what lands to discover, what treasures to reveal! Much as we know to-day about the human body and the ills to which it is subject, we have but scratched the surface of the wealth of information that yet remains undiscovered. Much of the foregoing has been suggested by a very remarkable book “*The Expansion of Races*,” by Major Charles E. Woodruff of the U. S. Army Medical Department. Here is a work that in some respects is the most notable since Darwin’s *Origin of Species*. Only a medical man of the broadest knowledge and training could have written it, and yet the author has utilized information from not one but countless sources outside of medicine. No one can read this great book, even cursorily, without being impressed immediately with the erudition and labor

entailed in its production. It demonstrates not alone scholarship and learning, but a grasp of life and living that bespeaks many years of intelligent systematic observation. Better than any other book thus far written it exemplifies all that we have claimed about the widening sphere of medicine. We only mention it at this time (a full review will appear shortly) because it shows so well that modern medical science touches humanity at every point. With infinite skill and the deepest learning Dr. Woodruff has woven his facts together to form a book that will live for many a day. Not the least of its many features is the way that the author brings us face to face with the fundamentals of life and their bearing on the problems of race and human progress.

One type of journalism seems to exist simply to stir up ill feeling, to cast the foulest aspersions and to do all the harm possible. It never creates anything but always tears down. It points no morals, serves no honorable purpose and seems to have no other aim than to work all the injury it can. Neither logic nor common sense enter into its fabric and its warp and woof are all too plainly hatred, jealousy and malice.

Fortunately, medical journalism has been pretty free from this type of literary depravity and medical editors with the rarest exceptions are clean, decent men. The literary attainments of most of us may be ordinary and the products of our pens may never rise above mediocrity, but few of us ever go out of our way to attack and injure our fellows or use what little power we may have to belittle some colleague and his work. Most of us respect our opportunities too sincerely to prostitute them in any such way.

There are a few editors of medical journals, however, whose chief delight is in

insulting, slandering, or traducing every one whom they do not fear, or do not want something from. No one is exempt from their venomous attacks. If a man attends to his own business—he is slurred, if he tries to make the most of his opportunities, however humble—he is belittled, if he tries to be kind and friendly and show his love for mankind—he is ridiculed. “Write something” against him, “knock” him, hurt him all that is possible in his pride, pocket-book or ambition—that is their creed and that is the standard under which they offer their bastard journals to the medical world. What must be the psychology of men who so delight in putting their hatreds and ill feeling into “imperishable print?”

Most American medical journals are free from this taint of personal animus. In this country and Canada there are said to be nearly three hundred medical journals. It is a mighty fine thing to be able further to say that less than ten of these are ever guilty of traducing or wilfully injuring individuals. That so little of the vicious kind of material previously mentioned ever appears in these many journals is a splendid testimonial to the clean, kindly minds of the “men behind.” It is good to stop and think that there is so much simon pure decency, peculiar to no locality nor section, but just common to the class of medical editors. When one comes to look at the fine good things that the decent journals of this country are doing, somehow or other the yelping and snarling of the jackals grow very insignificant and harmless.

“Stir up the fire, and if they come too close a good swift kick is always effective. They will slink away when the daylight comes, so what’s the use of worrying?” And with this the old hunter rolled over with his blanket around him and went to sleep.”

Sounds kind of sensible, now don’t it?

ORIGINAL ARTICLES.

THE DANGERS OF TENT SHELTERS FOR CONSUMPTIVES IN SUMMER.

BY

MAJOR CHAS. E. WOODRUFF,

U. S. Army Med. Dept.

The benefits of open air are so phenomenally great that our endeavors to obtain it are liable to lead us into other dangers which will prevent the best results. This is illustrated by the mania for putting consumptives into tents in the hot and light months, a mania so pronounced that every tuberculosis exhibit includes many models of shacks, tents, sheds, &c., and never a word is said as to their summer dangers. Cases which have recovered in spite of the harm are held up as proof that no possible damage can ensue from living in a hot glary tent in the summer time. The experience of tent hospitals in the civil war is also quoted as proof, and in our medical schools it is still taught that hospital gangrene so fatal in houses was apt to recover promptly if put out doors into tents. The overflow from the dirty, septic hospitals got well. Those retained indoors perished. It is now believed that the good results of out door treatment were mostly found in cool weather, because we have suddenly realized that all kinds of cases do badly in tents in our field hospitals in the hottest weather. Two years ago at the Jamestown Exposition camp we found that in every fever, the temperature was abnormally high in tents but when the case was transferred to the comfortable hospital at Fort Monroe the temperature would fall two to four degrees. This corresponds

with the observations of White of Colorado Springs and others who found in consumptives that the temperature invariably rose upon exposure to the sun. Two years ago in the epidemic of typhoid in our Cuban Army, the cases treated in the modern hospital near Havana suffered no mortality, but those in distant stations, where there were only improvised hospitals some in tents and no arrangements for protecting cases from heat or light there was a mortality of nearly seventeen percent. We now teach that in the field it is safer to send a typhoid a long distance over rough roads in a springless wagon, if it will only get him to a cool shaded hospital where modern treatment is possible. It is also a matter of military regulation to get all cases out of the field hospital into the semi-permanent or fixed hospitals on the lines of communication or at the base. This is mostly to remove infections from healthy troops but also to give better prospects for recovery. Our tent hospitals are now only receiving and detention wards where cases are held long enough to make a diagnosis and arrange for their transfer to the rear. It is the only kind of hospital whose usefulness depends upon its being kept empty, ready to move with the mobile army.

Thus it happens that while military practitioners are abandoning tents, civilians are taking them up more and more. I have no doubt that much of the bad result of summer treatment is due to exposure in tents, where the patients cannot be kept cool or shaded. Even in houses in summer, we find infinitely better results by the constant use of an electric fan, playing day and night gently upon the bed in such a way that the body is protected from the direct draft. In one case during last summer I was amazed at the increased comfort

of a typhoid patient from the use of the electric fan. In the tropics, there should be one for each bed or group of beds.

It is doubly necessary to protect from tent glare. Last summer we gave a trial to a tent I had devised with a blue roof, to keep out the glare, and it was remarkable how much more comfortable it was.

Not only must we warn against the use of tents in the hot light months, but I beg all those having opportunities, to compare the results of treatment in tents with those carefully shaded and kept cool. I have been recently informed that when the civil war closed and the sick were being shifted north, it was found that they improved as soon as they reached cooler latitudes, and that they could not be unloaded even as far north as Washington or Baltimore without extreme danger. There is no doubt that the tuberculosis mortality in summer, particularly in the south, is unduly large and avoidable if we will only avoid tents and keep the patients cool and shaded.

TIMIDITY AND INSANITY.*

BY

MARY K. ISHAM, M. D.

Columbus, O.

A hospital for the insane offers a splendid chance for the observation of psychic processes in their making and unmaking. Here is a vast psychological laboratory, where the experiments are already prepared. Here we have human characteristics concentrated, disintegrated, perverted, exaggerated, diminished, or abolished.

Fear in its various forms is the cause of so much human misery, that the psychiatrist is naturally attracted to a study of it. The relation which timidity bears to fear may perhaps be made a little more clear, if I were to repeat a few thoughts from a former paper.

Timidity is hardly a pure and well defined emotion. It involves more or less all the forms of fear. It is rather a mental attitude of shrinking from one's environment on any given occasion. It has many modifications and disguises. In the presence of persons, the sufferer exhibits bashfulness, shyness, or backwardness; in the presence of an event plus persons, embarrassment, lack of self confidence; and in the presence of an event alone, worry.

The unpleasant experiences due to timidity can be traced directly to a survival of the old instinct of flight in the presence of possible danger. The desire to be somewhere else is counteracted by the demands of custom to remain present; and when thus forced to stay, one desires to appear as well as possible. The inhibitory stress of the transaction creates the disagreeable feelings of timidity. The inhibitory processes are allowed to attack a tendency to flight because one wishes to do the proper thing. Close upon the struggle presses an anxious sense of impending failure.

Out of over seventeen hundred patients at the Columbus State Hospital, only forty were found who were able and willing to answer intelligently a list of questions relating to timidity. Of these forty, twenty-five were directly under my care. Answers from the other fifteen were obtained through their ward physicians. As the entire number of patients under my charge represents approximately one-fourth the

*Read before the Academy of Medicine of Cincinnati on April 19, 1909.

patients of the institution, it is fair to conclude that if I had had a thorough acquaintance with all the patients, I might have collected about one hundred papers. Of the forty patients from whom answers were obtained, thirty were women and ten, men. The same reason holds for the scarcity of the men as for that of the three-fourths not on my wards—their answers had to be obtained indirectly.

Out of the forty, twenty-two stated that they were timid. What the intellectually submerged are feeling, has not yet been determined.

It will be easier to examine each of these cases separately and draw general conclusions later.

Case 1. Melancholia, woman, age 45, married. She says she is timid upon the approach of those she loves and when eating and drinking. Diefendorf says that the fear of melancholiacs is increased by association with those who are accustomed to arouse in them the deepest feelings, while strangers and new environment create little emotional reaction. It is a striking peculiarity that these patients become quiet when transferred to a new environment.* May it not be that the melancholiac, in accordance with his habits of self accusation, unconsciously locates the possible danger in himself, rather than in his environment? This patient thinks that she is able to lessen a feeling of timidity by sitting down and keeping quiet. Sane persons agree, as a rule, that the feeling is lessened by movement.

Case 2. Catatonic form of dementia praecox, woman, age 37, married. She appears the most timid of any patient in the hospital. She has many mannerisms. She used to be a school teacher and usually shows intelligence. It is evident that she is constantly fighting to maintain the power of inhibition; but in spite of this effort she frequently loses her hold. This loss she realizes to some extent for her description of the feeling of timidity is "I

let the nervousness take care of itself." What the nerves will do when allowed to take care of themselves can be studied in her mannerisms. She careers around her room like a hunted animal. If in a large space she described great and intricate gyrations in her approach or more frequently her departure. She turns her head away and covers her face with her arm; and if she decides to approach will exhibit the superlative degree of coyness and shyness. But all the while one feels that she is not suffering from embarrassment as much as her actions would seem to indicate. They are too exaggerated and the great lack of control in her movements of flight shows that the mind is not undergoing much stress. One day she said to me, "Doctor, I may act very shy, but I do not feel so." This patient realizes that in an Utopian state of society fear would be unnecessary for she says in answer to the question, do you ever feel timid when alone—"I am not the Christian I once was. Perfect love casteth out all fear." She has very little endurance of either mental or physical control. In answering questions, she begins many of her answers sensibly and then trails off into nonsense, as for instance:—

Question: When embarrassed how do you act?

Answer: I do not have time to know how I act. When, as this expression, I would rather be good than pretty.

Question: What situations with people make you feel most timid?

Answer: When upon becoming acquainted with friends I have answered don't say appetite. (This answer has more sense than appears; for previous to commitment, she refused to eat at the table with her family on account of extreme embarrassment.)

Question: Have you any characteristic gestures or expressions due to nervousness?

Answer: Yes ma'am, oh yes sir. I laugh entirely too much for my own good. When I am asleep.

Case 3. Paranoid form of dementia praecox, woman, age 54, widow. She is well educated and has well systematized, extremely fantastic delusions. She returns a very dirty and untidy paper and fills up all available space with wordy an-

*Clinical Psychiatry, pp. 354-355.

swers. The following are a few examples:

Question: At what period in your life were you most timid?

Answer: Not timid wrongly just before some large battle or strike or national trouble, fire, or other crisis, in which I have had to take part, facing sickness or death, or as a surgeon, or any crisis. Faith in God always triumphs, yet often anxious, yet *God's will be done*.

Question: Are you timid only in the presence of people?

Answer: I look to God and read people. I am wary, alert, and either trust them to some extent or am on the defensive. None perfect except God.

Question: Does timidity cause you much or any suffering?

Answer: Not wrongly timid. No. God upholds and protects me.

Question: Are you easily embarrassed?

Answer: If I am not fully up to date upon current matters of the day, topics of conversation, current languages, or called upon publicly for public work without previous notification or preparation, sometimes it is embarrassing. Yet as far as I am competent, I am always ready.

Question: When timid what is your mood—gay or otherwise?

Answer: When anxious or ready for danger, cool, very cool, alert, wary, cautious, discreet, ready: as a detective, gay or quiet, firm, as necessity suits the case.

Question: When in the presence of others are there any special bodily positions which you take in order to feel less timid?

Answer: Faith in God, first trust God, then look them square in the eye, firm, sure, let them act out their nature, read their very soul all you can. Of God answer accordingly.

Question: Does the knowledge of your lack in one direction affect your actions in other directions?

Answer: No. If I ever feel I lack in education or competency in any direction, I strive to become more thorough. No one has ever graduated so high that they cannot graduate higher through eternal life. I strive ever for higher life, oneness with God all I possibly can for ever more.

Question: Have you any characteristic gestures or expressions due to nervousness?

Answer: No, none wrongly. When anxious like to pray to God, then trust God and work it off, will go and lie down and trust God. I know God is faithful and *will protect right*. Reliance upon God.

Question: Are you athletic? Name the outdoor sports in which you take part.

Answer: Licensed in all male, also female, army drill sports, sword, horseback, theatrical, circus, menagerie, trapeze, marine ocean, license society, tennis, croquet, golf, skating, billiards, cards in all guises.

Question: Have you found any way of lessening timidity? If so, how?

Answer: God and brains, common sense, *self respect*, health, God and health gives self confidence, in soul and body strength.

Question: What sort of intellectual capacity are you considered to have?

Answer: Born God's begotten child. Court licensed God's begotten child. Divine birth is highest intellectual capacity.

Question: What is your occupation? If you have no regular occupation, how do you spend your time?

Answer: King, Queen, President. While King Queen President however, I am fully licensed also in every department of the Worlds Industrial Exposition, Combine Treasury, professional also, trades.

Question: Does it seem to you that timidity hinders progress in life, intellectually or otherwise?

Answer: Not in one way. Causes soul to seek study. Soul must live, often becomes expert as naturalist, geologist, astronomy, mining, unless too timid to live.

Question: What in your opinion are the causes of timidity?

Answer: Birth, some are not legal legitimate birth. Next unconverted by their own soul right. Self confidence is never timid. Next, not treated honestly sometimes even from childhood. Next, out of their sphere, where would be brave.

Case 4. Diagnosis uncertain, woman, age 37, married. She still shows a remarkably brilliant and highly cultivated

mind. She taught school for many years, was greatly overworked, and married while suffering from nervous exhaustion. After her marriage, a very difficult labor was followed by a severe attack of grippe. At one time she had suicidal intentions. She has delusions of crime, degeneracy, wickedness, not only regarding herself but everybody else. She considers herself the most wicked person in her family history, and accepts as true all the superlatively ill-natured epithets which other patients bestow on her. This patient is alert in action and thought, quick of speech, and expresses herself unusually well. She has a perfect sense of her identity, insight into her condition, and no mannerisms. Her many peculiar delusions regarding her physical condition and the character of those closely associated with her are hard to classify, owing perhaps to the fact that she is more learned and original than the average intellectual insane person. In this patient we have the fire and brimstone evangelist multiplied many times. She says she is always timid, full of fear, and terror, horror of the future existence.

I have attempted to abstract the salient points of the long thesis which she handed me; but omit her copious underlining, quotation marks, and dashes.

"Is there any fool so great a fool to whom timidity, its causes, its nature, and the conclusions to be drawn can long remain in dim lines? A long road to timidity—the nature of and causes leading to. But from the relative nature of the term, manifold in expression, in form, in degree, manifold as man is numbered,—as deep as the bottomless pit, wide with the wideness of the sea, hidden in mystery as are the mysterious plans of Providence, God alone will explain timidity in his own time.

"And when that mysterious veil, which covers futurity, is lifted, is drawn aside, all the gayety of life will disappear. And man will perceive good cause, sufficient reason, for those effects known as timidity, fear, terror, horror, anguish, agony, pain, suffering, disease.

"He the living God whose vengeance is upon all mankind who have failed to fear: He whose wrath is justified upon those who talk of timidity as a condition more

mental and imaginary in results than physical, they who fail to acknowledge the awfulness of disobeying nature's law, they who deny pain and fatigue and continue on and on, denying God.

"Whatever else could God plan and carry with effect but a lake of fire and brimstone for the disobedient. It is not up from the ape but down, *way, way down from the goat.*

"President McKinley was on God's poison list. And every man and the offspring, male and female, of every man, poisoned by tobacco, by alcohol, by opium, by drugs of any kind, by the poison of forbidden foods, by disease resulting from vice, vicious thoughts, words, acts, personal, private and public crimes—sins of any or all kinds—hold God's bar-sinister against the name. On the poison list from the beginning, from the dawn of creation.

"The more fool-hardy an individual becomes, the less does timidity enter in. Fools rush in where angels fear to tread. A sense of danger arouses in some individuals extreme fear of conditions resulting from dangerous environments and guards them from rushing in. With others, there may be a timidity not sufficiently extreme to prevent results or effects of a cause—one cause being the rushing in of fools, bringing with it its own penalty—its own punishment.

"Some children are more timid than others. Old age wherein the experiences of life have served a useful purpose, usually manifests timidity—a mental condition not entirely dependent upon the weaknesses resulting from old age. Old age does not command respect unless it brings with it an increase of certain conditions the world sometimes terms chastity. It quite often brings a lessening of decency, but usually there is a timidity which did not enter in in earlier years and very frequently a fear of death which increases as time passes by. As a rule the greater the ignorance of nature's laws, the less fear, the less timidity.

"An hour may bring a timidity wholly foreign to the individual; and a day a fear, the horror of which robs for all remaining time any possibility of pleasure or enjoyment of life—a shock which all humanity

may feel and a knowledge of life and death and eternity the depth of which no human mind has sounded.

"Read the book of Proverbs and then question yourself relative to timidity. Put aside metaphysics, all psychological data: put aside everything in book form, except the Great Text Book and there in that book you will find an answer for all questions. Read the revelation of St. John the Divine. 'Seek and ye shall find: knock and it shall be opened unto you'."

Question: Are you easily embarrassed?

Answer: *Disgrace* is so far beyond embarrassment that the question is not answerable.

Question: When timid what is your mood—gay or otherwise?

Answer: It used to be otherwise before my understanding of God's vengeance. Since, it is DEVILISH beyond the conception of mind.

Question: Does a feeling of discomfort in the presence of one or more persons ever arise because you feel that you are lacking in some particular?

Answer: Certainly, in presence of those who are not absolutely given over to evil. Among evil surroundings I read every sign and indication of evil, every blemish, every tone of voice. The degenerate tell the story in almost numberless ways. Mental affliction unbalances all ease.

Question: What sort of intellectual capacity are you considered to have?

Answer: A fool.

Question: What is your candid opinion about your intellect?

Answer: A devilish fool.

Case 5. Paranoid form of Dementia Praecox, man, aged 39, single. He has delusions of being possessed by three women. He was a theological student and has a great amount of book learning. His delusions appear in his answers. In an explanatory note:—"If you are not an expert on the gender of hand writing, your vision will be limited; but on the other hand, if you can tell a lady's handwriting from that of a gentleman's in an absolute sense, you will have the kernel of the whole affair * * * *. When these questions dwelling upon experi-

mental or empirical psychology were handed to Mr. C. W. S., by Dr. Guy Williams, my supposed physician through you, they were transferred to a peer of all peerages in a literal sense without any exception and if you are believing that said character is answering these questions, you are at liberty to have your views; but if not, there will be another phenomenon of two more opposite considerations.

"If you can think of a thief entering a house, when the owners of the residence were not expecting this unpleasant creature, and when he and his pals bind and gag the occupants, making them entirely helpless, you can possibly realize Mr. S.'s condition, when he is placed in the quandary of the owners of the residence, for both the originators and the writers in answering these questions have complete sway over him voluntarily and involuntarily on his part, then inevitably Mr. S. is entirely eliminated as the originator, or in other words in a complete sense and not figuratively speaking, he is like a child two months old or a resemblance to a deaf person when it comes to speaking, or a blind person when it comes to writing individually, for you know, as you are a doctor, that it is a principle of medical science when a person's organs (such as the hands, feet, and arms) are not used for a certain period, in a course of time they become inactive.

"There is a notice on the first sheet which reads, 'if you prefer, sign merely your initials.' In compliance with the statement, as it conforms with our idea, I will endeavor owing to the circumstances to obviate the uncertainty by inserting the initials, as there is not a single person on the earth in the material flesh who knows our names, not even Mr. S. himself, and if he does not I do not know who in the world does. Sincerely yours,

X, Y, Z, Missionaries, Invisible and External with respect to the position of Mr. S.'s body."

Question: Are you timid all the time?

Answer: Now doctor, if you should see in the discussion of these some 50 questions the change in person of the personal pronouns and nouns from the first person to the third or *vice versa* either discriminately or indiscriminately, you will

be at liberty to form your conclusion that the analysis is no analysis, but it belongs to the domain of incoherency, as you know in what kind of an institution I am placed. In addition Mr. S has no more charge of these papers than Mr. John Sam in the Southern part of South America, or Miss Sissy Sis in Africa, or Mr. Shing Shang in China.

Question: If only upon certain occasions, what are those occasions?

Answer: My timidity, as all women are timid is not perceivable by the material people with whom all of us collectively associate, so the only precaution I need to observe is my audible language to material people while on the earth, and I might add my hand writing; but as to Mr. S who cannot talk or write the English language, I am inclined to believe that he is very timid in a marked degree for all dumb people are more or less timid because they are placed in very adverse circumstances.

Question: Are you so bashful that other persons have remarked upon the fact?

Answer: No person in Ohio has ever seen me whether I am bashful or not.

Question: Are you easily embarrassed?

Answer: I am what you might call bold, and no person in this material world has ever seen any of my bodily movements, not even in an iota sense, consequently I am devoid of tactual perception to the physical people, but not to the immaterial people *up in Hell*, the home of the blissful.

Question: Do you ever act in a certain way merely because you think a person is expecting you to act that way?

Answer: No person in Ohio has ever expected me to act in any direction; I am considered and have been considered a nonentity in an absolute sense.

Question: In what respect is your health poor?

Answer: I have no flesh or bones, consequently I have no physical ailments described in the medical journals, a subject of discussion before conventions.

Question: Do you worry?

Answer: There is no necessity, since I am dead physically.

Question: Have you any religious or moral scruples or standards which have a

large share in making you timid upon certain occasions?

Answer: I claim that nine-tenths of material people in every political division of both hemispheres on the earth are superstitious when it comes to the beliefs of Jesus Christ, heaven or angels on the one hand, and the devil, hell and eternal punishment on the other hand, whether the artificial God be a supposed Jesus Christ or any other antiquated God. You can to-day hear these old fogies *up in hell* hammering away at their bigoted guesses and theories full of sincerity but devoid of intellectual research, for no person has ever come across a Jesus Christ after being dead—it is purely delusions based upon the assumption that there ought to be Gods in some preconceived form.

Question: Are you physically lazy?

Answer: I have no physique in the flesh, so my laziness is not discernible.

Question: Are you self reliant?

Answer: I endeavor to be self reliant, but Mr. S has not had a chance since November 7, 1901, in the year of the devil.

Question: Have you executive talent?

Answer: Not very much executive ability about me, yet I might say the greatest achievement I have ever accomplished was to get Mr. C. W. S in this insane asylum.

Question: Are you much of a talker?

Answer: I do my share, yet no person in Ohio has ever thought in any infinitesimal degree that I ever uttered a syllable or a single word.

Question: What in your opinion are the causes of timidity?

Answer: Psychologists in presenting their principle of psychics, as a rule, do not give any classification of timidity, which can only be touched upon in a general sense. The thief and murderer might lack courage before making a raid; the young man or woman in seeking an education might lack funds and fortitude; the mercantile man uses precaution before making an investment. Secretiveness by means of health or inheritance is a cause. All people from the date of their birth and until they die are timid in some degree. The idea of hell, the poisoner of a child's mind, is the greatest cause of them all.

Case 6. Alcoholic Hallucinosi, man,

age 45, married, a journalist. He writes "I get to thinking how things are going and then I become nervous and afraid * * * *. I always have to overcome a feeling of timidity. It catches me in the chest and hurts my head, my head and chest feel as if in compresses. When embarrassed I sometimes forget and my nose wants to jerk, and sometimes I cannot prevent my face from jerking * * * *. Sometimes when I am scared I feel as if I must do something right away and sometimes I want to go away by myself."

In an explanatory paragraph, he writes: "They said I am insane, but I am not at all insane. Because people talk to me whom other persons did not hear, they locked me up. This was because of a peculiar attribute that I possess and that the doctors either do not know about or will not admit that I have. The voices I hear are astral voices, projected from great distances, sometimes by friends and sometimes by enemies. I haven't yet learned to distinguish always between friend and foe, but I shall before long and then I shall know what to do as to the advice they give me. The ability to hear these voices is undoubtedly rare, but the existence of this receptive power is well known among the Hindus."

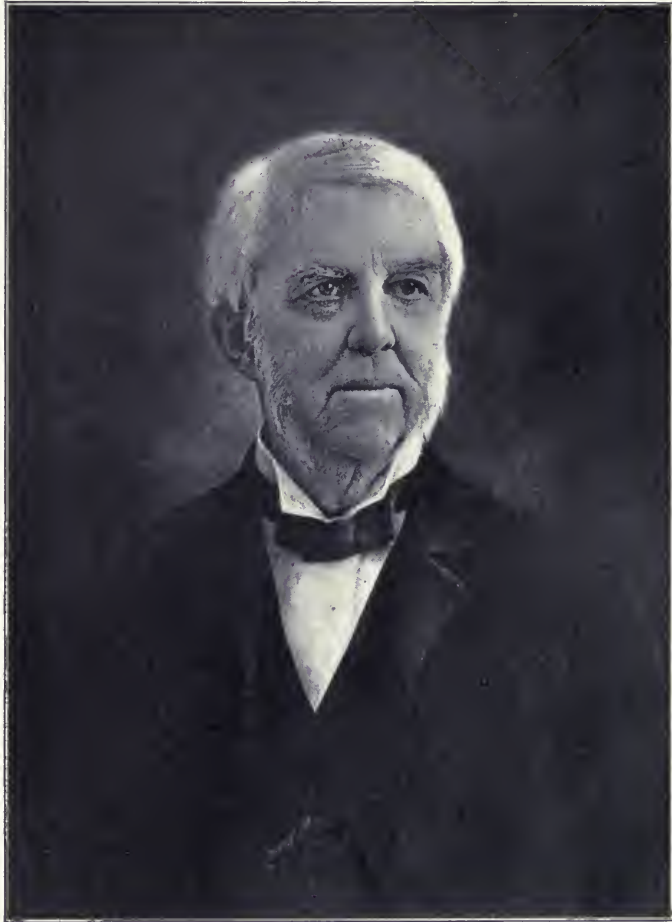
Case 7. Melancholia, man, aged 48, single. He used to be a journalist, and displays a great deal of literary appreciation and expression. He says he feels timid when he has periodical attacks of indigestion which necessarily disturb the nervous system. He cannot say that he is not easily embarrassed to any great extent—only from an unexpected event is he abashed. He thinks that remaining quiet dissipates it to some extent. In answer to a question about the opinion of others in regard to him, he writes: "I hardly listen to other people's opinions of me. If good or bad I try to exercise my own judgment." He thinks that timidity is due to "over work and worry and fretting which accompany each other and a number of other causes, no doubt. Excesses of any kind will produce timidity—that is, it will weaken the nervous system to such a state as to produce it. Timidity is want of nervous energy. A person may inherit it, advancing age may produce it.

I think mental overstrain will produce it * * * *. Neurasthenia such as I am troubled with will produce it—not cowardice as some may think—but simply an inability to carry out with force and potency details such as a stronger organized nerve person would do. A person afflicted as I am, may in a quiet way, do much good intellectually. But he is unfitted to battle with the hurry, scurry ways of the world—hence timidity is a sequence to the disease * * * *. Children may be made timid by threats, scolding, and a shrewish tongue. The black, black night makes some people timid, especially if in their mind they anticipate ghouls and ghosts. I have known people to be afraid to step into the night, apprehensive at some terrible calamity. It depends to a great extent on your environment whether you will be timid or not. If one is pushed out into the world quite young and required to depend on self, I believe there would be less timidity and more courage. You find timidity among the weaker sex, because of their home-staying and too much domesticity and you will find more of such kind in our hospitals."

Case 8. Catatonic form in Dementia Praecox, woman, aged 29, single. She used to be a school teacher and spends much of her time at present in conducting imaginary German classes, which activity is apparently not founded on a delusion, but is a compulsion. Her father was a hard drinker. She says she is timid, *when not confident of getting through the labor prepared for the following day, that her relatives at times cause her to feel timid, strangers usually embarrass her*; that in the presence of others she *stands up and goes to the source of fear*, in order to feel less timid. That *when sitting straight up* she feels most timid. This patient may be found either sitting stooped over on the floor or walking restlessly up and down the ward. She has the shrinking attitude which many cases of dementia praecox show. When at her best, she was considered to have a remarkably bright intellect, and she often shows a great deal of analytic ability, as in her thought that "great anxiety to accomplish all of one's desires" is the cause of timidity.

Case 9. Morbid Personality, woman,

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Oliver Wendell Holmes

aged 49, married. This patient is troubled with mysophobia and many hypochondriacal and hysterical traits. At all times she craves attention and sympathy. She is very timid and nervous with those of whose good-will she is not assured. Unusually sarcastic, accustomed to cultured society, and witty, she is a good companion for the few moments, when she is not complaining. She has felt timid *when obliged to speak or read in public and in the society of some few persons, in most any situation among ill bred people and in her present environment.* She writes "I am quite aware of all my defects so feel some embarrassment in the presence of a few persons." She attributes the cause of timidity to *heredity, early training, and lack of appreciation and encouragement.* This patient has had all the opportunities which wealth and cultured parents could furnish: but has a bad heredity on the mother's side.

(To be continued.)

THE HOLMES CENTENARY.

BY

H. EDWIN LEWIS, M. D.,

New York.

August 29th, 1909, marks the centenary of the birth of Oliver Wendell Holmes. It is eminently fitting that such an event be properly observed, and due homage paid to the memory of this great American physician. No words or tribute of the writer can add in the slightest to the fame of Dr. Holmes or make his name stand forth any more prominently than it already does. But as these anniversaries of the great men of our profession come and go, we owe it to ourselves to pause, however wrapped in the present we may be, and reflect on their works and achievements. It is always exhilarating to feel the glow of inspiration that comes from contemplation of the lives of great men. Perhaps this inspiration, with its unquestionable uplifting influence, is not the least of the "footprints on the

sands of time," which the poet tells us are the real legacies of useful lives.

Oliver Wendell Holmes added much to the imperishable history of American medicine. He was a thinker as well as a worker, and when his work was done, he left the world better and richer than he found it. Men loved him for his moral and intellectual stature, but above all for his kindness and broad humanity. Everything he wrote, and the world knows how much American literature and letters owe to his pen, shows the fountain of sympathy that constantly flowed for his fellow men. He was a true physician, mindful ever of the ideals of his beloved profession. That he placed those ideals on the highest possible plane, that he never lowered them nor suffered any man to lower them, is doubtless the highest tribute that can be paid to his memory, for thus he shaped his life.

And so, though the years may ebb and flow, bringing their measure of hardship and pain, happiness and pleasure, the medical profession, and the world at large can never forget the man who first pointed out the contagiousness of puerperal fever, and left behind him such masterpieces of the English language as *The Autocrat at the Breakfast Table*, *Elsie Venner*, *Old Ironsides*, *Songs in Many Keys*, and *The Chambered Nautilus*.

The message he delivered to mankind is as full of meaning today as it ever was, and through it, Oliver Wendell Holmes, poet, author, and true physician will live as long as memory endures.

Can any one read these immortal words without thrilling at their beauty and deep significance?

"Build thee more stately mansions, O my soul,

As the swift seasons roll!

Leave thy low-vaulted past!

Let each new temple, nobler than the last,
Shut thee from heaven with a dome more vast,
Till thou at length are free,
Leaving thine outgrown shell by life's unrest-
ing sea."

A NEW KIND OF GYNECOLOGIC MASSAGE AND ITS INDICATIONS.

BY

RICHARD HOGNER, M. D.,

Boston, Mass.

Brandt, the father of gynæcologic massage, a layman (an officer in the Swedish army), founded, about fifty years ago, a system of manual treatment of female diseases, which stood the test at several university clinics in Europe.—My homage to his memory; my gratitude for his teachings!

Thure Brandt's system is elaborate, with medical movements before and after the local massage, with directions, rules and manipulations for different conditions. A regular séance takes an hour or more. Several of the most celebrated gynæcologists and a host of other doctors from all quarters of the globe (first sceptical, later on enthusiastic)—have seated themselves at his feet and returned to their locations to apply the principles of his teachings.

Thure Brandt's method works in selected cases excellently, no doubt; but nobody uses it routinely nowadays, and most cases are best benefitted by surgery and massage together.

The whole Brandt system is practically too cumbersome, but fortunately, its simpler portion, the local massage, taking only a few minutes at a time, is often enough to produce substantial results.

Brandt started the local massage "far

away," in order to free the peripheral circulation, and gradually he massaged centripetally towards the "locus morbi." Always, he finished with manual vibrations. Then, years back, I could not understand how a few seconds of slow vibrations could be so important; now I do.

In gynæcologic massage the position of the patient and the doctor is very important.

Brandt had the patient lying or one-third sitting on an inclined plane, about sixteen inches from the floor, himself sitting at the feet of the patient, on her left side, facing her; his knees around the corner of the hard couch, his left arm in the median line of the patient.

Except in cases with tight hymens he examined and gave the massage with his left index finger in the vagina and second finger in the rectum—for palpation and fixation of the organs—massaging through the abdominal wall or sometimes per rectum, never through vagina.

I have the patient lying, about eighteen inches above the floor, on a double inclined plane, the head and chest of the patient comfortably elevated, the abdomen and the legs very much raised, thus getting the best relaxation of the abdomen and moving the intestines away from the massaging. I sit at the patient's left side, on the hard couch, my left hand and fore-arm in her median line, the elbow resting on the couch. I examine and give the massage as Thure Brandt, but use mostly vibratory massage by means of a motor vibrator,¹ giving manual massage merely as introductory to the vibratory.

Gynæcologic massage is based on the same principles as other massage.

¹ The best vibratory ball is an olive shaped one, 3 c. m. by 7 (circumference).

Lately, *Cedersköld*, of Sweden, has found that in external massage a pressure-relaxation method, i. e. compressing the tissues for some time and then relaxing, and repeated, is often more effective. For years I have done so in gynæcologic massage, but I often keep the vibrator under a constant pressure throughout. In the very nature of the vibrations we always have a kind of pressure and relaxation massage, however slight, through the action of the vibrator, it may be. The vibrations of the machine are transmitted through the abdominal wall and the massaged tissues to the fixating fingers, but pass only a little outside this area, as the vibratory massage is practically local. I give the massage centripetally, as Brandt did, but begin with the manual and finish with the vibratory (instrumental). The patient must relax the abdominal wall as much as possible, and often she helps me, holding the vibrator. Impressing her that she is my best helper makes her encouraged and more interested in the treatment. For a local effect of the vibrations I keep the instrument in contact with the "*locus morbi*," but sometimes it is desirable to get a milder and mixed effect and then I let it move about a little, under different pressures, thus getting both a general and at the same time a somewhat local effect from the vibrations.

This "new kind of gynæcologic massage" (the instrumental, vibratory one) has many times proven curative, when other treatments, even surgical, have failed to get a permanent, or for the patient satisfactory, result. Let it be used (but only by gynæcologists and we ought to have non-operating gynæcologists) for its proper indications and, I am sure, it will be a

blessed adjuvant to other means of treating female diseases.

The indications for gynæcologic massage are clear.

The indications for gynæcologic massage are "*mutatis mutandis*" the same as for any other massage, to free the circulation, to hasten resorption, to stretch contractions, strengthen muscles, etc. Swellings, infiltrations, abnormal connective tissues, hyperplastic enlargements or contractions within the small pelvis are often accompanied by or are the cause of malpositions of the organs. The so-called malpositions of the uterus may, however, not be wrong at all, as Sahlin has long ago shown from his vast hospital and private experience. He found that retroversion sometimes exists in healthy and very young girls as in some older women; that it very often exists in multiparæ, apparently pictures of health and hard working women. Such a position, in itself then, is not abnormal, but its presence should always lead us to further investigations. Then, if the uterus is found to be normal in motility, size, tenderness and consistency the "malposition" is normal and better—for this patient—than a correction of it. If the malposition is in the particular case important, we must attack the "*causa morbi*," the inflammatory process and its sequelæ which have drawn the organ out of place or, in even small prolapses, the muscular weakness of the floor of the pelvis. Muscular weakness of the floor of the pelvis is easily to be overcome by Swedish medical movements, of which I will mention only one: the "pressing in and upward of the pelvic floor", often repeated. The patient crosses the legs, pulls the abdomen in,

draws the perinæum upward, holding the breath, just as for preventing a sudden diarrhea. The positions of the body can be standing or sitting, but best recumbent on a hard couch (the foot-end elevated, as much as convenient) or on the floor, as then the weight of the organs is eliminated, and lying on her face, if there is a retroversion.

The most striking proof of Thure Brandt's genius and intuitions is his cure of total prolapse of the uterus, by manipulations only (gymnastics, massage and his peculiar "lifting of the womb"). He originated the idea that the uterus was not suspended by the broad ligaments, etc., but (as we now know) supported by the muscular floor of the pelvis. He tried to strengthen the muscles, to reduce the weight of the uterus, to keep it in anteversion, as his experience had taught him (as we now also know), that an anteverted uterus seldom prolapses. At Brandt's Clinic I saw myself, two cases of complete prolapse of several years standing cured by him after four to six months daily (!) treatment, once or twice a day. Where now-a-days can you find a patient or a doctor of such an endurance? We all now ask the surgeon to take care of such a case, but gynæcologic massage as an after-cure ought, as a rule, to be insisted upon.

Thure Brandt made his "liftings" of the always first anteverted uterus by the aid of four hands, by two persons, one lifting the organ so far up and forward that the pelvic floor was stretched, the other one directing the position of it.

I have substituted for the four-handed lifting a two-handed method (by my own hands only), when indicated, as it is in all prolapses, even of the smaller degrees,

or in induration or contraction of connective tissue of the floor of the pelvis, etc. I lift the uterus, bimanually and pull it and the underlying tissues far upwards and forwards, keeping it in this position for some time, during which the patient works the vibrator on the stretched tissues underneath.

Next in number to peri-uterine inflammatory processes and its sequelæ I have successfully treated metritis and endometritis, according to general principles, aided by massage.

Acute and also chronic bleeding have yielded rapidly to my vibratory massage, as for instance post partum hæmorrhages in place of the circular, manual rubbings, so often practiced after the expulsion of the fœtus.

The massage is contraindicated in purulent, too acute and too sensitive cases. Sometimes, by mistake I have massaged pus-infiltrated tissues, but never to any harm, as I have had sense enough to desist in time. In such cases I have, however, had the benefit of clearing up the diagnosis. Whenever there was no improvement in two weeks I have been assured it was no case for massage. It is a very safe rule with massage, that if there is no improvement after a daily treatment of two weeks, you can be sure that it will not benefit the patient at all to continue any longer. I cannot remember a single instance that has changed my opinion in this respect.

In some cases of purulent infiltration I have obtained with large doses of streptolytic serum and massage, together, very rapid cures, but I do not recommend the massage as a rule in such cases. The serum is good and cannot be too strongly recommended.

The only "medical gymnastics" I prescribe are the "pelvic-floor drawing up movements," also walking.

Finally, though not the subject of this paper, I cannot refrain from mentioning the good effect of vibratory massage in many other ailments, especially in prostatic diseases.

To Dr. Edward Reynolds, the gynæcologist, I give my very best thanks for his valuable advice and kind interest in my massage.

EXPERT CHEMISTRY IN THE DEVELOPMENT OF LIFE, AND ITS BEARING ON MEDICAL SCIENCE.

BY

JOSEPH CLEMENTS, M. D.
Wichita, Kansas.

This discussion has particularly to do with the sea urchin and starfish parthenogenesis as achieved by Professor Jacques Loeb of California and De Lage of Paris. There is published in *Science*, Oct. 4, an address by Professor Loeb, "On the Chemical Character of the Process of Fertilization and its Bearing Upon the Theory of Life Phenomena"; such a presentation of the question is authoritative.

It is the *life* problem that is here involved, the life phenomena put on exhibition. Reproduction is a life *function*, fundamental, to be sure, and in the higher organisms multiplex and complex in characteristics and processes, but still one in a congeries of functions comprizing the organic or life phenomenon. In the higher organisms development precedes the reproduction function and is, in a sense, independent of it, maturity in development being the condition that one of

its ova be capable of development into an individual organism.

In the lower and simpler organic phenomena, reproduction being less complex, is more closely and fundamentally involved in the organic development as a whole. Rising in organic grades the distinction becomes observable, and as a part of the function of reproduction a factor in so termed "*fertilization*" is seen to be an essential and preliminary. Yet so distinct in consideration are the life functions that a perfect female organization may attain and end development and tenure of life and the reproductive function fail of achievement—simply by non-fertilization.

Now, the starfish parthenogenesis narrows the question down to *fertilization*, a subfunction, or part, or condition of the function of reproduction. The more or less complex reproductive function is affected but not *effected* by fertilization, as is true also of the development of life—this is a scientific question, and science, if anything, is specific, exact.

In a consideration or discussion of the life problem, or of a function or part of life phenomena, it is vital to correctness that the basic facts are held distinctly in mind. The life phenomenon is *organic* in kind; that is to say, it is *associational*, not sectional, only accomodationally. Reduced to its lowest terms a living thing is only conceivable with correctness, as a phenomenon embracing an *association of functions with and effected by groups of physical processes, which are cyclic in character, the completion of the cycle or cycles being necessary to the achievement of each function*, and not a single factor in the ensemble of activities thus described may be omitted. Each, and the

whole are vital to a correct conception of the life phenomenon, or to "an objective picture of the nature of the life processes" (Virchow). The lowest known living things—one celled organless organisms—(Haeckel) and even without determinable cell, effect the functions of nutrition and reproduction, and by means of the involved cycling groups of physical and chemical processes—by preeminence termed organic. No other known cosmic phenomena are associational in this sense—kind or degree. In a general sense the universe is now considered as an organism, and all cosmic phenomena are related, each planet has its orbit and could not *be* if cut off from relation with its "family." But the idea and term *function*, as manifest in "living" processes, is meaningless in physics, and chemistology in particular. Purely chemical phenomena in their ultimate conception evidence nothing in kind equivalent to the associational and cycling in life processes.

With these simple facts in mind the author's is a gratuitous assumption at the outset of his discussion, that "all life phenomena are ultimately purely chemical." And the observation is imperative of the puerility of the reasons as basic to the assumption, particularly that the "peculiarity of developing and reproducing themselves automatically, differentiates, for the time being, living organisms from machines made of inanimate matter." When the fundamental facts in the ultimate of life phenomena are given recognition a different picture is presented, and the misleading assumption will be found to be unscientific and unfounded. These facts will appear as this discussion advances.

FERTILIZATION IN STARFISH PARTHENOGENESIS.

The egg with which the experiments were made were living eggs, animate matter, and living processes were in progress, the organic functions and activities were dynamically and in their incipency kinetically, existent. The primal life function—physiologic respiration—with all it involves, with its sequelae in nuclear differentiation in interest of cell proliferation and competence to development and reproduction as the property or hereditary endowment of the egg or germ, all of this was already in existence and in operation slowly. The egg itself of the sea urchin is a germ. Functional and cycling processes preceded the coming into entity of the egg as the fundamental factor in the incipient organism. In the lower, or say normal parthenogenesis the egg is competent of development and reproduction without fertilizing factor external to itself, and in still lower no conception of fertilization is suggested. And so, rising in organic grade reproduction becomes more complex in kind, and factors and functions in fertilization and attainment of reproduction are in evidence. Development and reproduction, however, reduced to the lowest terms as to their effective processes are achieved in bioplasmic differentiation and cell proliferation, and these phenomena are in operation in the starfish eggs, slowly to be sure, so slowly at the time of experimentation as to be termed the "*resting stage*", and this will result in the "*death*" of the egg if left to itself, or put beyond the influence of its normal fertilizing agent or factor. So that, given a living egg the whole of its phenomena of embryologic development and reproduction function are provided for in its hereditary endowment—it

can be made to develop into no other than an organism of its kind—and the ultimate and primal and all competent functions and processes—respiration, differentiation and cell proliferation are already in activity.

In the lowest of organisms no specific fertilizing factor is needed. In higher grades the organism fertilizes itself. Farther up as a special, a male fertilizing factor and function are provided. A simple factor and agency in this is sufficient in the simple sea urchin organization, a more specific and complex factor and function obtain in the higher and highest. What then, is the nature of this factor and agency of fertilization in interest of reproduction, and how does it operate?

A thousand thanks to expert chemistry. It is now known that a factor of a chemical character is competent in substitution for the normal factor in starfish fertilization completely and the reproduction phenomenon is achieved to a *degree*, to a *large* degree, the extent, however to be yet determined. Full grown and healthy starfish are said to be developed, against which no manner of doubt is raised. Further matters of necessary inquiry would be in regard to the parthenogenetic eggs, the sex of the fatherless sea urchins themselves and of their progeny, if such may be parthenogenetically materialized. This and more is necessary to determine the status of the chemical substitute for fertilization of starfish eggs.

Professor Loeb says: "The spermatozoon produces two kinds of effects upon the egg. It causes the egg to develop and it transmits the paternal qualities to the offspring." Now the two kinds of effect are at once seen to be very different and the imparting of male qualities would

play some though a secondary part in the starfish reproduction. In a succession of chemically induced fertilization, even if fertilizable eggs were successively produced (which the writer doubts as possible, as a permanent thing) would not the male sex die out, and other deficiencies accrue? Still, it may be allowed that this effect of fertilization, so-called, is less fundamental and more nearly incidental than the first named, in this grade of phenomena at least.

The first and also the fundamental effect of the spermatozoon in the higher, and of the chemical factor in the starfish function, is to cause the egg or germ to develop, it is therefore seen to be a *stimulant* phenomenon. Processes in action slowly take on acceleration and apparent vigor in activity, no evidence whatever of any new life property being imparted in the first or second or conjoined effect. No new function or even new process is originated, since the primal functions are active, and all else, the secondary, proceed from these, and when these are not potentially active the organic phenomenon is at an end.

"Of the ova of a mature maiden (70,000) each one is capable of development into a human being if fertilized by a male germ or spermatozoon" (Haeckel), and this is solely on the basis of the principle that development and reproduction are provided for in the heredity of the germ. Conditions in modification, in acceleration, in control and change, these guidances are in a sense incidental and to a degree capable of manipulation by expert chemistry, so-called, and scientific medicine.

Beyond all question fertilization in starfish reproductive phenomena is simply the stimulus to acceleration of the process

already in activity and provided for by hereditary endowment and if the chemical substitute were weighed in the balances and found wanting in any factors and particulars it would be in the incompetency to continue the full tale of the hereditary factors and properties.

THE FACTOR AND AGENCY IN STARFISH EGG FERTILIZATION PARTICULAR.

The factor in the artificial fertilization is an inorganic salt. The phenomena initiated are purely chemical, there is disintegration in solution of the salt, a further reaction taking place and the electrical bombardment in "ionization" processes all being purely chemical and of the later conceptions of the chemical phenomena. But what is bombarded? Upon what are the ionic batteries turned and upon what do they play? The eggs are put into the salt solution (as were a frog's leg, muscle and nerve) and the electrons discharge their charge of negative electricity against the living matter of the cells, the stimulus (what is that?) causing, or eliciting response in *bioplasmic* (Beale) activity intracellularly, and lo! the *key to interpretation of all drug action in medical therapeutics*, and all like problems in medical science.

The purely chemical character of the factor, and its action, in starfish egg fertilization, is readily conceded, the process in response is organic, bioplasmic. Fertilization as a condition and excitant may be furnished or substituted by a chemical factor and process in the starfish subject of the phenomenon; viewed as a function or in its functioning phase it is organic—the organism fertilizes itself, effects its own functions. It is biochemical, a phenomenon in physiological chemistry.

The transmission of paternal qualities which Professor Loeb distinguishes as the second effect of the action of the spermatozoon upon the egg is more in evidence, of course, in the higher and more complex reproductive phenomena. The chemical factor may still play a part in the processes in question. We are in, as yet, an untrodden field, largely, and procedure is in part but speculative, and such queries arise as: Does the bombardment by discharging electrons give rise to accelerated physiologic respiration, or are its causal dynamics exerted upon the differentiation maneuver in process within the cell nucleus, or in what other way is the response to these, in a sense, external factors or agencies, secured? Vital motion is modified by every substance having contact relation with the living matter. While it might, perhaps, be more exactly stated, it embodies, nevertheless, a correct principle in life phenomena as the experiments in expert or physiological chemistry so well exemplify.

The atom is built up of electrons, about a thousand of them, these being carriers, each of a charge of electricity. With such conceptions of the ultimate characteristics of matter it is not necessary that there be veritable contact with the living matter. There is neither need for nor evidence of actual contact or relation by contact of any substance with the living matter of the cells, save of that wonderful entity the nutrient proteid molecule, whose pedigree, starting from the bottom in inorganic elements, which by plant physiologic elaboration, with aid of micro-organic nitrification are lifted up into organic status and structure, reaches the high grade elaboration to the enormous 15 or 16 thousand atomic grouping. These

nutrient proteids are solely of nature's elaboration, unapproachable by synthesis in laboratory formed organic matters, which may be only counterfeit and not duplicates of true foods.

In this nutrient function these proteid structures may be determined as to their chemical constitution and conformation up to their final intussusception. Taken up into the substance of the living matter of the cell their chemical identity is lost, conformation and constitution, both. Nor is either again regained or assumed in the after reactions, as in all chemistry. Following the nutrient absorption is increase in intracellular mass, giving rise to disturbed equilibrium, the precursor and cause or condition of fission by karyokinesis, and formation of the daughter cell. Here and in this there come into entity structural tissue formations and not chemically consonant with the nutrient proteids erstwhile taken up. The "daughter" nucleus is as its predecessor, as to its substance—identity, but not so as to the cell, and other tissue formations, the forces and processes in the nucleon differentiation issuing in the endless variety in organic development.

These facts, with much more, fill up a tale of differentiation between the organic and inanimate not to be dismissed as a "peculiarity" existing for the time being. No chemistry furnishes a counterpart to this phenomenon, and no chemistology a key to its interpretation, and we are today where true science has always brought and left us, in an attitude of recognition of the eternal distinction between the living and the inanimate, organic and inorganic.

THE BEARING OF THESE FACTS UPON MEDICAL SCIENCE.

The object of this discussion is to show its interest and bearing upon medicine. Medical science and practice will surely go astray on the principle of the living organism as a machine. Such a view will give licensure to "meddlesome" medicine and surgery.

The basic principle in medical science and art is the autonomy of the human organism. It operates itself. Whatever may be considered as physiological is effected by the organism through its own processes and functions. Pathology and therapeutics are simply modified physiology. No therapeutics may be effected by drugs or drug action, nor may any functions or processes be operated by chemical or electrical factors and agencies, or be substituted by them. Drug action is simply and purely chemical, it is confusing and misleading to speak of it as physiological. The experiments of expert or physiological chemistry in starfish parthenogenesis exemplify in a notable manner this fundamental principle in medicine, the modification by manipulation of the life processes. During centuries past physicians have understood and put in operation this principle. Jenner's vaccination in small pox was a monumental achievement not surpassed in principle or results to this day. Physiological chemistry in the use of the factor and reactions of inorganic salts influence and modify the activities and functions already in operation in the organic germ or egg and this is precisely a duplication of medical practice in the administration of drugs to the organism in development and for the same general purpose—modification of life processes. The

role of drugs may be precisely as that of the chemical in the experiments of expert chemistry—allowing for the greater complexity of the larger organic as compared with the egg phenomena. Drug action is simply and purely chemical until merged with life processes it becomes *biochemical* or *physiologic chemistry*. All else save the purely chemical is in the physiologic response which may be pathological or therapeutical. Hence the unscientific notion of “*remedies!*” There are no *remedies* in scientific medicine. The *one remedy* is the organism itself; it creates or initiates its own pathologic phenomena and is solely its own “*cure.*” Its own normal or physiologic processes may be influenced, modified by “*external*” factors and conditions; it may be stimulated—goaded; perhaps decoyed—into such change as pathological may only designate and the phenomena may be modified, goaded, decoyed if you will—back again to normal. The supreme factor and agency in this supreme achievement of human knowledge and skill are chemical factors and processes so superbly championed and exemplified by Professor Loeb in the starfish parthenogenesis and other achievements.

A clear conception of the distinction between the simple chemical factor and the purely chemical character of its processes and the larger and more complex phenomena of the organic response is of vital moment to a correct interpretation of the phenomenon. In this response the *primal* functions and processes are enlisted and physiological chemistry is comprehensive of the responsive or secondary in the manoeuvres. In limited ways and degrees chemical factors and reactions may, perhaps, by their imitation, influence and modify the activity and direction of the primal or cellular processes—as we know nuclear differentiation foreordains variety in after appearing tissue

structures. The nuclear, however, is an hereditary agency, not subject to the limitations which must mark “artificial” manipulation, and, perhaps, less probable of ill consequences—the latter, however, a problem for further thought.

So, to “play with life,” to “*meddle*” with life functions, even in purposed remedial modification, is a grave undertaking. And who knows how far-reaching may be the effects of the apparent fundamental modifications being initiated in recent theoretical organo and serum medical interference? The highest scientific qualification, with responsibility equal to the gravity of the undertaking, should limit hypothetical exploitation in these fields.

THE GERM THEORY OF DISEASE.

In view of the *facts* set forth in this paper the germ theory of disease needs reconsideration, possibly reconstruction in some particulars. Bacteria are not “germs” in any sense—mostly they are fully grown organisms, and the idea of a *germ* of a disease is unscientific in conception, and incongruous with physiological thinking—which is “thinking as nature does.” This only need here be said: *germs* of disease, and *remedies* in drugs, legitimately give rise to the notion of disease as an entity, with possibility of bottled and sold pharmaceutical “*cure,*” and this is father to the patent medicine evil, the bane of modern civilization.

The more recent and notable “*side chain* theory” and the “*opsonic index,*” part of the latter theory, are greatly influencing and modifying modern medical science—at least theoretically and for the time being. The former is to an extent misleading because of the exaggeration of its mechanical or machine conception, with its cut and dried lock and key fitting, which is incongruous with the primary factors and their activities *in vivo*. In the opsonic theory many established facts and factors in the organic processes are utilized and made to be

promissory agencies in the purposes for achievement. But is the basic conception, or is the exploitation at fault, when followers and expounders of the theory assume "*opsonic powers*" as a content of a serum, to be measured qualitatively and quantitatively, and to be raised or lowered by concentrations in numerical counts of microorganic bodies, or otherwise, determined *in vitro* prior to the *in vivo* experiment or test? This is the *chemical* phase of the procedure, notwithstanding that the serum, and the microorganic bodies are organic. Opsonic function and power are organic, the response elicited. The opsonic power is not a content of the mixture of the ground bodies of the bacteria, the ten millions, more or less to the cm.

This may determine the grade of the chemical reactions or factor inducing the opsonic response, and should be so understood and stated. But the theory is recent and further development may be awaited.

And so all theories in medical science must be gauged as to their status and value on the basis of the fundamental principle of the autonomy of the living organism.

GUN DEAFNESS: A DANGER.

BY

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Air vibration, if of a violent nature, and repeated at short intervals, with increasing intensity, renders all chance of repair of the tissues of ears necessarily injured next to impossible, and in time absolute deafness must come.

Exemplification of this condition is brought vividly before us, when we study our gun crews upon a modern battleship at target practice.

To keep a war fleet up to its high state of efficiency, long hours at gun practice are imperative. The late Admiral Farragut said, "accurate gun fire is your best protection from the enemies fire." Thus gun laying is now in order on winter and summer fleet manoeuvres, and as a natural result the ears of officers and men are subjected many hours a day to the terrible air vibrations set up by guns of various calibers, fired in rapid succession.

During target practice the small calibered rifles are mostly used, viz.: 3 pounders, 12 pounders, 3 in. and 6 in. It is ordnance of this class whose quick sharp ring sets up ringing in the ears of the men after four or five rounds have been expended.

The huge 50 calibre, 13 or 14 inch guns are not in action during this work, for though of great size (50 feet long) and massive mounting, they soon reach their limit of accuracy after 83 rounds. Erosion at their muzzles, is due to the high temperature of gases, generated during the explosion of the propellant, which is about 2000° F.

As steel is likely to rub off a little at this temperature, 83 or 85 rounds is supposed to be the limit of exactitude and modern powder conditions, or so at least until we can combine more carbon in the powder and steel.

"It is not the big ones we mind," said an officer to the author only a few days since, "it's the smaller guns that ring and crack incessantly. They make a fellow deaf, whereas the great blast is fine, because it sounds like business."

The six pounder has a sharp ear splitting ring, and this is repeated during target work to such an extent that the guns seem to be alive, so fast are they served and fired.

The men and officers are in the field of the "blast" when the larger or smaller guns are in action. Those guns that are in turret, like the main battery, create such a vast vacuum that shocks are reduced to a minimum; still the gun crews do get shocks, slight though they are.

To be brief it is the sharp ring that is damaging and if not guarded against will put out of the Navy many fine officers and men with ruptured tympanums. Traumatic myringitis must result, as well as afore-said rupture of tympanic membrane. Rupture of membrane may be avoided by those working the guns, who keep their mouths open in order that air may pass through the eustachian tube; regardless of this safety measure the intensity of air concussion on the foramen ovale and agitation of the fluid in bony labyrinth may yet have a bad effect (Keen, Vol. IV).

A year since, Service publications in England were declaring that the R. N. Medical Officers gave it no serious consideration.

The British Admiralty examined the hearing of 50 men and ascertained that more than half of them were practically deaf and attributed the condition to gun firing. The ear plug, advised by the medical board, would obviate in a measure the numbness and danger of rupture, but Jack is loathe to use it "for he's hard as nails."

Some R. N. officers have gone so far as to prohibit its use, and have substituted a bulky thing called "the blast screen."

This useless article is made of steel and rubber, 17 feet deep and is said to shield the men from the blast of the four inch guns. The only real advantage is, that it enlarges the target, for an enemy's fire, but helps not the hearing. The English

have gone so far as to place such a thing upon H. M. S. Inflexible, so it is said.

One would imagine, that a man with plugged ears would not distinguish orders during battle, but this is not the case.

Men protected from the blast of smaller guns, can and do hear far better than those whose ears are unprotected, and who suffer from numbness of the tympanum after four or five shots have been fired and fail to make out commands when roared at them. No doubt the officers will in time favor the use of ear plugs, the efficiency of which has stood the battle test satisfactorily.

The Japanese used them during their war with Russia, and certainly there was no misunderstanding of orders in Tshuma Strait. The staff officers of the British Gunnery Schools, order the men under their command, to use a wool plug, for by so doing hearing is retained.

Cotton-wool plugs have been used by the men in the Gunnery School for some time past. (*United Service Gazette*, No. 123, U. N. I. P. 1322).

For some time a few officers in our Navy have stuffed just enough cotton and oakum into their ears to avoid contact with the tympanum, and have found the experiment a success.

Surgeon-General Rixey, U. S. Navy, describes a device invented by Cheatly of England, "which performs a dual function preventing deafness, and enables a man to hear orders given."

"It is a mixture of animal wool and modelling clay, is easily worked into the ear, and being plastic, removed quickly." It fits the aural passages of ears of all shapes and sizes.

The Elliot ear plug seems to find favor on this side of the water. It consists of a

small curved celluloid ball and wing. The wing fits neatly into auditory orifice, being held in place by that part of the wing that fits against the auricle. The voice can be heard and words accurately made out with this instrument emplaced in the ear; air vibration is mitigated and all danger of rupture of membrane removed.

As all military surgeons know the concussion of today may be nothing to that of tomorrow when guns will be larger and of greater trajectory. Still electricity may do away with even air vibration, for artillery is as yet a science of possibilities yet unattained.

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¹U. S. N., I Proceedings No. 123 and 128, under Prof. Algers, U. S. A., Notes.

²Keen's Surgery, Vol. IV, p. 1035.

THE SPLEEN.

BY

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The Talmud states that in ancient times runners had their spleens removed to enable them to attain greater speed. Paulus states that in his time the splenic area of the abdominal wall was cauterized with a red hot iron. Plinius records the fact that removal of the spleen was practised upon runners, and says that cauterization was frequently performed in the region of the spleen. This superstitious notion prevailed for centuries; though it is difficult to understand how splenectomy would lessen dyspnea. It is almost impossible to give credence to the actuality of these operations. A grave operation accompanied by many fatal terminations, it was a great risk for those with athletic ambition.

In the 5th century Aurelianus wrote of the practice and describes the plunging of a red hot iron deep into the tissues to destroy the spleen. Unfortunately these operations are referred to but indefinitely—too vaguely to be of actual value. In *De Carnibus*, Hippocrates gives a beautiful picture of the knowledge extant in his day, of the splenic physiology. He says: "The spleen is composed thus: with the hot and the viscid, a great deal of hot and a very little of the cold, only as much as is sufficient to fix the viscid part of it,—that is, its fibres which are in the spleen." Truly a fitting anatomical description for an organ which, according to the same author, draws the watery part of the food from the stomach, as the gall bladder draws the bile from the liver. Galen held that it attracted by its great vein the juices from the liver which underwent changes in the substance of the spleen,—part going to nourish that organ, part thrown off as an excretion into the stomach, producing appetite by its bitterness and acidity. Vesalius gave no function to the spleen save that of warming the stomach. Ulmus and Plater drew an interesting, if incorrect, picture of the splenic function. The chyle from the stomach was brought to the spleen by a large vein (gastric). In the spleen this was converted into blood and returned to the heart by the splenic artery and aorta. Harvey's circulation of the blood and Acellio's observation on lacteals, made possible the first accurate anatomical knowledge of the spleen. Malpighi discovered the essential parts of the organ, the Malpighian bodies, and considered them to be secreting glands. He also asserted the contractile nature of the trabeculæ, previously held to be nerves. Ruysch, a rival of

Malpighi, was the first to consider the spleen as a vascular or blood gland, similar to the thyroid and lymphatic glands. Stukely, in 1722, advanced the theory that the spleen, by acting as a diverticulum to the general circulation, serves to maintain the balance of the circulation. Hewson, 1777, advanced the idea that the spleen converts lymph into blood globules. Cuvies concluded that it had some immediate relation to the secretion of bile because of the great size of the splenic vein; that it had some relation with the digestive juices because of its common arterial supply with the stomach and upper intestine. Dobson observed that the spleen increased in size from three to five hours after eating. In splenectomized animals he found four hours after eating a full meal evidence of an abnormal plethora thus establishing to his satisfaction the correctness of Stukely's theory.

In 1847 Kolliker fathered the theory that the red blood cells were dissolved in the spleen and that the coloring matter is employed in making bile pigment. One year later Beclard claimed that the blood of the splenic vein contains less red cells than that of other veins. At the same time Funke claimed that it contained more. Leaving our history here we consider the embryology and anatomy.

Embryology:—The spleen from the embryological standpoint has no connection with the gastro-intestinal tract. The spleen analogue appears at the fifth week of foetal life as a slight condensation of the mesenchyme in the mesogastrium near but distinct from the pancreas. The mesenchyme cells are transformed into lymphatic tissue into which blood vessels grow from the abdominal aorta. As the body grows it migrates to

the left and a constriction in the mesenchyme arises making the gastrosplenic omentum. In foetal life the spleen is an important haematopoietic organ, forming both red and white blood cells. The spleen develops then from the mesoderm; the pancreas and gastro-intestinal tract from entoderm.

Anatomy:—In man the spleen lies between the fundus of the stomach and the diaphragm. It is a flattened oblong body of variable size and weight. Usually it is $5 \times 3 \times 1\frac{1}{2}$ inches and weighing 7 ounces. Peritoneum covers the organ completely save at hilum where vessels enter. The peritoneal folds which hold the organ in its position are the phreno-splenic or lienorenal and the gastro-splenic. The collicorenal forms a swing in which the spleen rests. The surfaces are three, the phrenic in relation with the diaphragm, the renal in relation with the kidney and the gastric or internal marked by the hilum and in relation not only with the posterior wall of the fundus, but also with the tail of the pancreas which abuts against the lower portion of this surface. Besides this external or serous coat, the peritoneal investment, there is a fibro-elastic coat which forms the frame work of the spleen. The tunica albuginea consists of white and yellow elastic fibrous tissue, the latter decidedly predominating. In addition there is found in man a small amount of non-striped muscular fibre in this frame work. This fibro-elastic coat invests the organ as a capsule and at the hilum is reflected inward upon the vessels in the form of sheaths. From the inner surface of the capsule and from the vessel sheaths are given off in all directions numerous trabeculae. These uniting form the frame work of the spleen. The spaces thus formed

(areolae) contain adenoid material, the splenic pulp. This splenic pulp consists of connective tissue, corpuscles and blood. The processes of these connective tissue cells branch and communicate with one another, thus sub-dividing the areolae formed by the trabeculae. In these secondary spaces are numerous blood cells and the terminations of the blood vessels. The smaller arterial branches gradually lose fibrous sheath and ultimately break up into brush shaped terminal twigs without anastomosis. The points of division of the smaller arterial branches serve for the lodgment of the whitish Malpighian bodies. These special bodies are about the size of a pin head and are identical in structure with the solitary lymph follicles. They are spherical lymphatic masses, partly separated from the vascular sheath, and are the special splenic structures.

It is supposed that no continuous channel exists between the arterial and venous radicles, that the mesh-work of the pulp reticulum represents the intermediate vascular area devoid of walls. The blood then passes through the splenic mesh-work just as the lymph stream passes through the lymphatic gland. It seems certain, however, that there is a closed vascular channel connecting the ultimate arterial and venous capillaries consisting of dilated spaces similar to the cavernous spaces in erectile tissue.

Within the pulp are found, first, leucocytes of various sizes, some very granular. Second, leukoblasts, which multiply by division. Third, erythrocytes. Fourth, embryonal forms of red cells multiplying by mitosis. Fifth, white blood corpuscles containing old and disintegrating red cells. The chemical constituents of the spleen are globulin, nucleo-albumin—

nucleinic acid—leucin—tyrosin—zanthin—hypoanthin,—lactic, butyric, acetic—formic, succinic—uric, glycerol—phosphoric acids. Fats, cholesterolin—glycogen—inosite—iron containing pigments and free iron oxide.

Lymphatics of the spleen comprise two groups, the trabeculae and perivascular. The trabeculae lymphatics are contained in the trabeculae, and communicate with lymphatic network in the tunica albuginea. The trabeculae lymphatics are contained in the lymphoid issue of the pulp. At the hilum both sets meet and pass to the splenic glands, hence to coeliac glands.

Nerves are derived from the splenic plexus, an offshoot from the coeliac plexus of the solar plexus. The fibres which are mostly non-medulated are from the sympathetic and partly from the left pneumogastric nerve.

Physiology:— Though the spleen is the largest ductless gland, it is not necessary to life, as is shown by a case of splenectomy for gun shot wound of the spleen, reported in the *Annals of Surgery*, January, 1908.

Not considering the indefinite reports of the ancients, the first reported case of splenectomy with recovery was performed in 1549 by Zaccavello for hypertrophy of this organ. I have been able to find reports of 784 splenectomies performed for various reasons. Of this number 528 recovered and lived for some time after the operation; the majority for many years. Ott says that a total absence of the spleen has been observed, though I have been unable to verify this statement. Undoubtedly the spleen is not necessary.

In fetal life the spleen is a haematopoietic organ, what of it in post-natal life? In health the spleen continues its blood forming, though to a very slight extent.

Most investigators agree that white cells are continually formed in the spleen, because of the numerous leucocytes in the blood of the splenic vein and their presence in large numbers in the splenic pulp; that erythrocytes breed in the spleen is also firmly established.

Bizzero and Salvioli showed that after severe hemorrhage the spleen becomes swollen and the parenchyma is found to be rich in nucleated embryonal erythrocytes. Also that after venesection large numbers of red cells are found in the spleen which normally contains but few. Gibson confirms these findings. Howell showed that after a single strong hemorrhage nucleated red blood corpuscles were demonstrated in the spleen of the cat, with indications of multiplying there. Normally erythroblasts are not present. Meyer and Heineke made confirmatory experiments. Morris says, in embryonal life the liver, spleen and bone marrow are haematopoietic. Early in post-natal life the liver and spleen practically suspend this work. When anaemia occurs the bone marrow regenerates the blood. If, however, the anaemia be severe and prolonged the demand upon the bone marrow becomes too great. Then it is that the liver and spleen return somewhat to their embryonic type and again make blood cells.

Bunting showed that chronic anaemia in rabbits from saponin led in some instances to the same condition described by Meyer and Heineke. He says: Peripheral venous sinuses of spleen were much dilated and crowded with cells of the bone marrow type. Mostly of the erythrocytic series, but including many megalokaryocytes and leucocytes. The nucleated red cells being grouped much as in marrow and showing numerous mitotic figures. Therefore, the

spleen haematopoietic function may be dormant in health; but this important work is resumed if necessary and the spleen can and does make blood cells. The spleen is likewise a crematory of red blood cells. The large leucocytes of the splenic pulp acting as phagocytes undoubtedly take up dead and disintegrating erythrocytes. This is readily observed with the microscope. The destruction accounts for the yellow pigment and iron compounds in the spleen, resulting from the liberation of haematin. That splenectomy does not affect either the absolute or the relative quantity of red and white cells only proves that other organs are able to take up the work of the spleen in this respect.

The plethysmograph shows that the spleen undergoes rhythmic variations in volume from minute to minute, the systole and diastole occupying about one minute. Moreover, the spleen gradually increases in size for a period of five hours after digestion, then gradually returns to its normal condition. Therefore, it acts as a reservoir at certain periods of digestion, for which blood has to pass through the portal system. It assists the passage of the blood through the liver by its rhythmic contractions; these contractions being necessitated by the pressure relations within.

A few men claim that the formation of bile pigment is reduced by more than 50% in splenectomized animals. This together with the presence of pigment and abundant iron in loose combination in the splenic pulp has led to the belief that the spleen assists the liver in its bile pigment formation. Not substantiated however, and moreover, no haemoglobin nor bile pigment exists free in the blood of the splenic vein.

As to Internal Secretion:—Trypsinogen as formed by pancreas is not active but requires some enzyme to convert it into active trypsin. It is claimed that the internal secretion of the spleen is this activating agent. Steward claims that less trypsin is produced when the spleen is excised, while if splenic extract be injected into the blood of a splenectomized animal trypsin is increased in quantity.

According to Schiff and Herzen the spleen is concerned in the formation of trypsin from the zymogen found in the pancreas. He bases his claim on the fact that the addition of splenic infusion or splenic venous blood to trypsin increases its efficiency. Gachel and Pachon confirm this tenet. To my mind there is not sufficient proof that such a relation exists, particularly when we consider that the two structures differ so much in origin, the pancreas arising from entoderm, the spleen from mesoderm.

Removal of the spleen helps but little to a positive determination of the splenic function. It proves that the spleen is not essential to life in post-natal existence, and that its function can be very ably carried on by the abundant lymphoid tissue elsewhere in the body. The blood counts made on my case prove the re-establishment of the blood after splenectomy.

The increase in lymphocytes was accompanied by a slight enlargement of the lymph glands, probably only temporary, however. It shows, too, that the regeneration of the red cells has proceeded in a normal way, though the spleen was removed. The patient escaped after the last blood count and before the character of his intestinal digestion or the quantity of his bile pigment could be estimated. He did complain of symptoms of intestinal indiges-

tion, constipation and slight pain in epigastric region. Yet he gained weight and went back to his work. I heard from him yesterday; he will return to the hospital for operation upon a slight hernia at the site of drainage, at which time these points will be investigated.

Surgery:—The brittleness and loose attachments of the spleen permits of its being injured quite frequently. Enlargement not uncommonly renders it far more liable to injury. Wounds of the spleen are not infrequent; when slight, the bleeding can be stopped by packing with iodoform gauze. Suture of the spleen is not practical, the organ is too brittle and spongy.

Splenectomy is indicated for wandering spleen, simple hypertrophy, in Banti's disease and in extensive wounds.

The organ is reached by free incision through the outer border of left rectus from cartilage to umbilicus. A second incision may be necessary, best made externally, i. e., outward through the abdominal wall at right angles to the mid-point of the first incision. This affords much easier access to the spleen than a similar incision directed inward through the rectus muscle as is usually advised.

The spleen is freed from its attachments save the pedicle which is ligated firmly close to hilum. It is well also to ligate the vessels individually after the organ has been removed, as several deaths have occurred from a slipping of the ligature from the pedicle stump. Much traction upon the pedicle must be avoided for the attending stretching of the nerves produces profound shock through the solar plexus' powerful reflex. Then, too, the proximity of the pancreatic tail must be remembered and care taken lest part of it be included

in ligatures. For the pancreatic juice thus set free will surely produce fat necrosis.

In conclusion we beg to state that:

1. The spleen is not necessary to life.
 2. In embryo the spleen is a haematopoietic organ for white and red blood cells.
 3. In health this haematopoietic power, if not very active, still exists.
 4. In anaemia severe or prolonged the spleen reverts to its embryonal form and elaborates red and white blood cells.
 5. Some red cells are destroyed in the spleen.
 6. The muscle fibres of the trabeculae produce rhythmic contractions of the organ, thus facilitating the flow of blood through the liver.
 7. The distensibility of the spleen is of use. The organ enlarges after eating; acting thus as a safety valve it helps to maintain the proper circulatory balance.
 8. Its influence in the formation of bile pigments seems probable.
 9. Its internal secretion may be the activating principle necessary for the conversion of trypsinogen into trypsin, yet proof of this is lacking.
 10. Splenectomy is attended by no marked disturbance in body economy.
 11. After splenectomy the blood rapidly degenerates; so that in several months its component parts are apparently normal.
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DEFICIENT EXCRETION OF URINARY SOLIDS.

BY

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Several cases have recently come to my notice in which the portal system was obstructed, without any previous history of alcoholism. In one, a man of 43, the liver is atrophied, the left lobe presents a distinct tumor about the size of half an orange, projecting from the lower surface. There is some tenderness along the whole colon but none at McBurney's point.

The man is emaciated, lips pallid and slightly cyanotic, the pulse somewhat feeble, temperature a degree below normal. Decubitus dorsal. He has pains in the abdomen that necessitate small doses of morphine; these pains having no constant relation to the food or to meal times. A singular feature is persistent insomnia, not due to pain and not relieved by morphine in analgesic doses.

Examination of the urine reveals slight albuminuria, with marked defective elimination of solids, not of any one more than of the others. There is no trace of bile. The feces show only a trace of bile, but fat in abundance; no other abnormalities. The blood count gives about 4,000,000 red cells, 10,000 leucocytes in normal proportions, and only 45% hemoglobin.

The nature of the tumor is uncertain but it is not cancer, as shown by the absence of fever, and by the decubitus. The history is not alcoholic, but possibly there may have been an early and mild syphilis. Believing this the most probable cause of the atrophy and the tumor, the man was placed upon antisyphilitics, but he ran down so rapidly that after a few days the remedy was suspended. He was placed on tonics and a regulated diet, with concomitant roborant treatment, and sent home to recuperate in the rather faint hope that he might recover sufficiently to warrant an exploratory operation. This man's ill-health dated about two years back, but he has been able to do some work until quite recently. His stomach proved refractory to any but the smallest doses of the mildest chalybeates.

The other case is that of a delicate little lady, ailing many years with many ills. She suffers either headache, backache or abdominal pain almost constantly. The

liver is quite small, the kidneys never excrete more than 40% of the normal quantity of solids, the deficiency being most marked in urea. This is increased by suitable remedies but in a few days the liver becomes tender. All the pelvic viscera are congested, the hemorrhoidal veins, the urethral mucosa; and the scar from a vaginal hysterectomy is exceedingly tender. She is growing pallid and losing strength, although the blood is normal as to quantity in all respects. Great care is necessary to keep her bowels regular, or unbearable headache results; and yet any strong cathartic brings on severe abdominal pains.

In both cases there is evidently a chronic atrophy of the liver without alcohol or any other known cause, and without ascites. Repeated bacteriologic examinations of the blood fail to disclose the presence of any microorganism capable of accomplishing such results. The aid rendered by the laboratory here is purely diagnostic.

In this connection I wish to speak of aesculin: Many reports come to me of the value of this remedy in hemorrhoids and other congestive states of the portal roots. Aesculin is not a laxative, nor is its action that of an astringent; yet the testimony is uniform as to its remarkable power of relieving the symptoms in hemorrhoidal cases. I cannot conceive of any power it may exert here, if it is not by opening the portal outlets and relieving the pelvic and intestinal congestion. The second case seemed to call for exactly such a remedy, and it was given in doses of half a centigram four times a day. Since there was a trace of bile in the urine sodium succinate was also prescribed, five grains four times a day. Small doses of

saline laxative were given each morning, just enough to liquefy the stools. A quart of buttermilk was ordered to be taken each day. Within a week the pelvic congestion had subsided, the hemorrhoids had shrunk, the urethral engorgement had disappeared and the backache had ceased. There was no tenderness of the liver such as had always followed the use of boldine. In so far as the symptoms presenting could be referred to blocking of the portal outlets the relief was complete. Examination of the urine showed the daily output of solids had risen to a slight excess of the average for her weight.

Query: Is this due to the aesculin, the succinate or the buttermilk? Here is the difficulty with polypharmacy.

To decide this question the buttermilk and succinate were stopped (the trace of bile had vanished) and aesculin continued for one week when the urine was again examined.

The total solids excreted by the urine during the twenty-four hours had fallen to less than half the normal quantity. Aesculin was continued another week and one quart of buttermilk administered daily. At the end of this time examination showed a material increase in the solids which were now about one-half what they should normally have been. Sodium succinate was then added, the buttermilk being continued, the aesculin discontinued. One week later the examination of the urine showed that the excretion of solids had risen to the full normal point.

It is evident from these experiments that the increase in excretion was mainly to be credited to sodium succinate, at least in this particular case. While one case is insufficient to establish a point of

such importance as this, it is at least significant, and points to the desirability of further experimentation along this line.

SOME REMARKS ON THE PARISIAN CLINICS.

BY

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The Parisian Hospitals to which access may be readily obtained by the student or practitioner wishing to enlarge his clinical experience are all under a body called l'Assistance Publique. The funds it administers are derived from the common municipal fund and a subvention from the State.

The relief afforded by this body is a right claimable by any sick citizen in indigent circumstances. The funds for this purpose are ample. A certain sum too is allowed for medical apparatus; but this is insufficient in the opinion of the physicians in the hospitals.

No direct clinical instruction is provided except in the clinics of the Faculté de Médecine, which are fairly well organized for a small number of students and for purposes of clinical demonstration. But actual individual instruction is quite inadequate when compared with the standard attained in some of the German schools. This, however, may in part be due to the methods employed. To talk elaborately with much repetition for fifty minutes and then to demonstrate rapidly and unsystematically for less than ten is not a scientific way of imparting real practical knowledge of clinical medicine.

The patient working out of detail is left to the personal initiative of the student during his spare time in the wards: he

has no guide; and many of his mistakes must thus escape his notice. These objections do not apply to those students who gain positions as externes and internes. Of the latter, there are only fifty per annum; and the examination for them is exceedingly stiff, being competitive and open to any one who has qualified by passing his baccalauriat and externat. Success means four years' privileges in a position where much more responsibility is permitted than in a similar position in England and America, and where daily contact with eminent clinicians rectifies errors of observation and inference. Much practice of minor operations is permitted, and even reports of cases to the learned societies may be made. All this constitutes the internate, probably the finest clinical school in the world.

Many of these men are amiable; but they often attempt to pose as knowalls; thus their explanations lack in scientific accuracy, so that with the best will in the world they are of very little help to strangers, and for the slow careful study of patients necessary to the making of a first class clinician, one may as well remain in one's own country. However, for a general view of a superficial aspect of cases and for collection of rare and difficult diseases the hospitals are unsurpassed.

Beginning with the clinic of the Professor of Clinical Medicine in the University, Landouzy, the buildings, wards and fittings are exceedingly old and strike an American as very inadequate for the treatment of the sick; but splendid work has been done all the same, and patients are much better off than in their exceedingly ill-ventilated homes. The Frenchman has a morbid antipathy to the least draught; and a look at some of the more recent pub-

lic buildings in Paris is enough to show how little ventilation entered into the calculations. It is only now indeed that after innumerable complaints by strangers, ventilating fans are being erected in their underground railway system. Though Professor Landouzy has appreciated this factor in the production of tuberculosis, he has devoted much of his attention during the last two years to a collection of statistics which show the relation between uneconomical expenditure on food and drink and the ill-health which so often precedes tuberculosis. He has shown how the money spent by the French working man and woman in wine, would permit them to procure an adequate diet instead of the insufficient one which his inquiry has discovered to be so common.

This insistence upon the public and economic aspect of medicine, however, is not the rule in France; though latterly the anti-alcohol propaganda has become a craze with the French medical profession. Their appreciation of the tuberculosis problem is very imperfect. The International Congress held October 1905 does not appear to have created much permanent interest. It is in experimental clinical work that so much is being done now in Paris. A striking instance of this resulted in the "regime dechlorure" now so much employed. Achard, one of the pioneers in this work, leads at the hospital Tenon the exceedingly well organized, cleanly service; he is exceedingly hospitable, and is willing to show any thing he has, and to discourse on the cases. The same cannot be said of the service of Vidal, where however, some good work is being done; it is exceedingly dirty and ill-ventilated, and Vidal himself is not at all cordial to strangers.

At the huge St. Antoine Hospital, there are several services; that of Tissier, who has made a specialty of urology; that of Vaquez, who is well known for his work on blood pressure, and who has endeavored to establish guides for depriving of salt in cases of pure cardiac disease; and that of Bécclerc, who has a very fine radiographic installation, and who is working chiefly on the blood, along with Rist who has a neighboring service. The latter talks English, and is exceedingly hospitable and kind, and is a friend of Flexner and is well known for his investigation on anaerobic organisms in disease. Of course the most famous installation of radiography is at the Salpêtrière; but of this hospital I shall speak in a later article in connection with nervous diseases. Another service of general medicine is that of Dieule-foi at the Hotel Dieu. He belongs to the old school and is very rhetorical, but is thought very highly of by his assistants. He is professor at the University, and his assistants give several courses in different branches of medicine. Perhaps the finest lecturer on clinical medicine is Chauffard at the Cochin Hospital. He lectures however, only in the spring. Huchard specializes on the heart and is at the Necar, he is also very well-known for his work on the neuroses.

Turning to surgery, the professor at the Hotel Dieu has made an endeavor to have strangers treated with more courtesy by his subordinates, and expressed this desire in his introductory address in 1906. Clinical surgery is exceedingly well taught by his assistants, a series of demonstrations taking place during the spring. These are run alternately with gynecological demonstrations at the same hospital.

Tuffier at the Lariboisière hospital is well known for his surgical work on the nervous system, and for spinal anaesthesia, as is Marion; but neither the latter nor Chipault, who has written copiously, has a service of his own. The name of Doyen has been in every one's mouth; but in a connection not very creditable to the profession. His method of advancing his views on the pathology of cancer savors more of the charlatan than the scientist; for after the evidence he adduced had been sifted and its validity rejected by a committee of the society of surgery appointed to investigate his claims, he did not cease to re-assert that he had discovered the protozoon of cancer, and to permit the daily press to keep this assertion before the public.

Pozzi, the gynecologist, is very popular in certain circles and has a service of new wards in the old Broca hospital. He is brilliant and clever rather than painstaking.

Porier, who has a service is however, better known as an anatomist. Unexampled facilities for anatomical investigation or operative work on the cadaver are afforded by his laboratory at the university for an exceedingly small fee; and then the demonstrators are kindness itself, and do understand scientific direction of studies.

Both Porier and Pozzi have died since the above was written and now Chipault and Marion each have services.

The service of Thlippel is to a large extent neurological; for he retains the great interest in the nervous system which he gained whilst pathologist in St. Anne Insane Asylum. He is exceedingly affable, and is probably the best man to visit when the stranger is not very familiar with the

French language, for he talks very slowly, is glad to expound his ideas to strangers, and has much more patience than most Frenchmen. His work with Lhermitte upon the pathology of dementia praecox, and the report he made to the Congress of French Neurologists in 1903 upon the pathology of dementia paralytica has given him much fame.

In the Neurological Clinics more attention is paid to strangers, and the work is very painstaking and thorough. The writer considered them in the article which appeared in *Am. Med.*, 1908, Oct.

TREATMENT.

Tincture of Thuja for the Treatment of Warts.¹—Drs. Sicard and Larue recommend injections of a few drops of thuja tincture for the removal of warts as a painless and convenient method of treatment. The tincture is prepared from dry thuja leaves macerated in 80 per cent. alcohol. The region of the wart is thoroughly soaked in hot water to soften the horny layer, and then under aseptic precautions a few drops of the tincture injected directly beneath the hypertrophied papillæ, a thin needle with a short point being employed. Another injection is made at a place directly opposite to the first, so that the entire growth is subjected to the action of the tincture. The result is that after a few days the wart, if of moderate size, assumes a blackish brown color, shrivels, and after a week drops off. Larger warts may require two to six injections at intervals of five to six days. The treatment may be rendered entirely painless by previous injection of a local anesthetic.

¹Wiener Klin. Woch., March 14, 1909.

Treatment of Fractured Clavicle.¹—

Romer has successfully employed Hood's method, the technic of which is as follows: "Three strips of firm adhesive plaster, each an inch and a half in width, should be applied, from a point immediately above the nipple to a point below the angle of the scapula. The middle strip should cover the seat of the fracture and should be first applied; the lateral ones, slightly overlapping it, should extend about an inch and a half on either side. Each strip should first be made to adhere strongly in front, and while it is supported and fixed by the fingers of one hand, should be carried over the shoulder by the other, with steady pressure, and made to adhere as it goes." In addition to these strips, Romer has found it advisable to apply another which encircles the shoulder-joint, one end being brought diagonally across the scapula to below its angle. To prevent chafing or the plaster adhering to the hairs, a thin layer of wool should be placed in the axilla. The strapping once applied, the patient can dress in the ordinary way, the arm of the injured side being supported by a sling. For the first two days use of the arm should be restricted to underhand movements. As soon as possible the services of a skilled rubber should be obtained and the injured parts daily massaged for at least a week; the rubbings can be effectively performed over the plaster. At the end of this time the sling can usually be discarded, and the patient can be safely encouraged to take the arm into more general use. The strapping should be renewed at the end of the first four days, and again from time to time as occasion demands. By the end of a fortnight all movements are as a rule possible, but the lifting of heavy weights should be avoided. The parts should be kept supported by strapping for at least three weeks, even though no pain be experienced on movements.

Gynecological Disinfection Without Soap and Water.¹—O. von Herff has since a year used a method of disinfection which he considers simple, prompt and ef-

fective. The patient is bathed on the day before operation and the parts shaved, or, better still, the hair removed with a depilatory. Just before operation and during anesthesia the operative field is thoroughly but not forcibly rubbed with a piece of flannel soaked in 50 per cent. alcohol-acetone (2 to 1) for four to five minutes, and the wound dried. Tincture of benzoin or some similar solution is then applied. After operation washing of the parts is omitted and replaced by dry sponging, and the sutures covered with benzoin tincture. The dressing consists of adhesive plaster, gauze and cotton. The vagina is irrigated with a 3 per cent. alcoholic solution of iodine. Tincture of benzoin dries rapidly and forms a uniform covering. Alcohol-acetone is especially adapted for rapid disinfection, and does not irritate the skin, and exerts a lasting effect. Among three hundred cases operated on in the last fourteen months, including such radical procedures as the Wertheim operation, the mortality was 7 per cent. and in only three was death directly due to operative bacterial infection.

The Treatment of Acute Gout.¹—In order to arrest the abnormal intestinal fermentation, to remove the excessive numbers of intestinal bacteria, and to relieve the catarrh of the intestinal mucosa—all factors in the development of abnormal intestinal toxins—the bowels should be freely opened with four grains of calomel or "blue pill," followed by a saline aperient. For the first 24 hours it is preferable that no food should be taken, but water should be drunk freely.

For the treatment of the gouty paroxysm the limb should be placed in the horizontal position, or slightly elevated above the level of the body, and a cradle should be arranged so as to keep the weight of the bed-clothes off the affected part. To alleviate the severe pain felt in the affected joint warm packs should be arranged round it, consisting of cotton-wool saturated with a soothing lotion, and then lightly covered with oil-silk. I have found the following lotion most useful in relieving the local pain:—

¹F. Romer, London Lancet, March 12, 1909.

¹Prof. O. von Herff, Deutsche Med. Woch. No. 10, 1909.

¹A. P. Luff, M. D., London Practitioner, July, 1909.

Sodii. Carb. ʒiii.
 Linim. Belladonnæ ʒii.
 Tinct. Opii ʒii.
 Aq. ad. ʒviiij.

A small portion of the lotion should be mixed with an equal quantity of hot water, and then poured on cotton-wool previously arranged round the joint. The pack should be changed every four hours. In connection with the acute paroxysm no attempt at local depletion—such as the application of leeches to the inflamed joint, blistering, or incisions—should on any account be made, owing to the great liability of thereby extending the inflammatory condition, and so producing subsequent ankylosis or deformity.

For the internal treatment of acute gout, colchicum is one of the most valuable drugs that we possess. It should be especially used for acute gout, and for subacute attacks supervening on chronic gout. If it be used continuously, tolerance is apt to be acquired, and then the drug ceases to act. At the commencement a large dose of from thirty to forty minims of colchicum wine should be given, followed by a mixture containing in each dose from ten to twenty minims of the wine with from forty to sixty grains of citrate of potassium, which should be administered three times a day. The citrate of potassium, which is given for its combined properties of acting as a diuretic and of diminishing the acidity of the urine, may, if desired, be given as an effervescing mixture, using thirty grains of potassium bicarbonate to twenty grains of citric acid. Colchicum reduces the gouty inflammation, relieves the pain, and shortens the attack. It should only be taken under medical advice, and should never be given in such doses as to produce extreme depression; after the inflammation of an acute attack has subsided the doses of colchicum should be gradually diminished until it is left off.

A very useful method of administering colchicum is in the form of its active principle, colchicine, which may be given in doses of from one-fiftieth to one-eightieth of a grain three or four times a day immediately after food. Only a few patients will tolerate doses of one-fiftieth of a grain, the contra-indication of such a dose being the production of diarrhœa and intestinal griping. The following constitutes a very useful pill:—

Colchicinæ gr. i-60.
 Ext. Nucis Vom. gr. ¼
 Ext. Hyoscyami gr. ½
 Ext. Gentianæ gr. j.

After the initial free purgation, as previously mentioned, it is not desirable to produce too free an action of the bowels. All that is necessary is to have a sufficient action to relieve portal congestion and intestinal catarrh. The following pill effects this purpose, in most cases, very well. It is administered at night, and is followed up, when necessary, by a dose of saline in the morning.

Leptandrin gr. j.
 Iridin gr. j.
 Ext. Hyoscyami gr. j.
 Ext. Colocynth Co. gr. ij.

If the pain of an acute attack of gout is so severe as to prevent sleep, seven grains of veronal, or ten grains of trional may be given, or a full dose of extract of hyoscyamus will, in some cases, act as a very useful anodyne. The administration of opium or morphine should, if possible, be avoided owing to the risk of its deficient elimination, and also on account of its diminishing the amount of urine, and its tendency to derange digestion and to check hepatic metabolism.

BORIC STARCH POULTICE.—Mix a teaspoonful of boric acid and a tablespoonful of starch to a paste with cold water, then add a pint of boiling water. Spread on cotton covered with muslin and change often. Used for removing the crusts in eczema and impetigo contagiosa, etc.—*The Dietetic and Hygienic Gazette.*

NASAL HEMORRHAGE.—For the control of nasal hemorrhage tampons can be readily prepared as follows: A layer of cotton is wound around a penholder or similar object until the desired thickness is obtained and then withdrawn. The cotton cylinder is then moistened, squeezed dry, and inserted into the nasal cavity. If the projecting end of the tampon is now moistened it will swell up and thus produce sufficient compression.—*International Journal of Surgery.*

GENERAL TOPICS.

The Rights and Duties of a Trained Nurse.¹

The feeling is universal that the moral plane and professional ideals of the trained nurse are similar to those of the physician. Doubts of the correctness of this conception, however, might be occasioned not infrequently by the experience of physicians in this city at the present day when they have occasion to seek the services of trained nurses from some of the more important registries. The physician who asks for a nurse is frequently obliged to undergo a cross-examination as to the circumstances of his case before one can be secured. The majority of nurses in the registries connected with the large training schools of this city are on record as being unwilling to accept employment in cases which do not come up to their requirements. For instance, Miss A. is registered against night work; Miss B. against contagious cases; Miss X. against patients where there are children in the family; Miss Y. against nervous diseases. An appeal came recently from a physician in a neighboring town to send a trained nurse to care for his very sick child. The request was refused at two of the registries in this city connected with the large training schools, although at one of them at least there was a long list of unemployed nurses. The reason given for refusal was that the nurses did not wish to leave the city just before Christmas.

It may be said with some justice that the law of supply and demand should apply in the case of the services of trained nurses as well as of those of clerks or laborers or of the sale of commodities in general, but among the nursing profession itself there will be a majority to repudiate indignantly the applicability of such a law to their case. They assert and believe that the trained nurse's duty is first of all to be of service in the world of suffering, and secondly to consult her own convenience. At a recent meeting of trained nurses, graduates and students, speeches by training school superintendents and other women high in the councils of the profession showed the prevailing sentiment to be that the time was past for them to solicit favors from the

medical profession. The two professions should meet on an equal basis and confer for their mutual benefit. On the same occasion, however, one woman, a teacher of nurses and of nursing, appealed with single-hearted earnestness to student nurses to keep in mind this thought; not how much they could get out of the profession of nursing the sick, but rather how much they could put into it. To give the best of themselves, with the simple old-fashioned idea of making the world a little better. What a contrast!

At a large hostelry in this city used by graduate nurses exclusively there has been a dearth of work and some real privation for many months past. Yet perforce must the physician often go to graduates of rural training schools, undergraduates, and untrained nurses, while scores of our most highly trained nurses remain idle. It would seem to the physician that they refuse his cases at times on unwarranted or trifling grounds. It might be well would physicians make their feeling upon this matter known to nurses generally with the possible result that the best equipped women among the latter may not be led away from the high ideals of their profession even at the risk of occasional personal inconvenience.

Physical Diagnosis According to Mr. Dooley.—There is a delicious humor in the following which medical men cannot fail to appreciate. Mr. Dooley says:

"By that time I'm scared to death, an' I say a few prayers, whin he fixes a hose to me chest an' begins listenin'." "Anythin' goin' on inside?" says I. "'Tis ye'er heart," says he. "Glory be!" says I. "What's th' matther with that ol' ingin?" says I. "I cud tell ye," he says, "but I'll have to call in Dock Vinthricle, th' specy-alist," he says, "I oughtn't be lookin' at ye'er heart at all," he says. "I niver larned below th' chin, an' I'd be fired be th' Union if they knew I was wurrukin' on th' heart," he says. So he sinds f'r Dock Vinthricle, an' th' dock climbs me chest an' listens, an' then he says: "They'se somethin' th' matther with his lungs too," he says. "At times they're full iv air, an' again," he says "they ain't," he says. "Sind f'r Bellows," he says. Bellows comes and pounds me as though I was a roof he was shinglin'

¹Editorial, Medical Record, Feb. 20, 1909.

an' sinds f'r Dock Laporattemy. Th' dock sticks his finger into me side. "What's that f'r?" says I. "That's McBurney's point," he says. "I don't see it," says I. "McBurney must have had a fine sinse iv humor." "Did it hurt?" says he. "Not," says I, "as much as though you'd used an awl," says I, "or a chisel," I says; "but," I says, "it didn't tickle." The end is: "They mark out their wurruk on me with a piece iv red chalk, an' if I get well, I look like a red carpet."

Army Medical Corps Examinations.—

The Surgeon General of the Army announces that the War Department has appointed a permanent board to meet at Washington, D. C., for the preliminary examination of applicants for appointment in the Medical Corps of the Army in addition to the usual preliminary examination boards that are assembled at various Army posts throughout the United States from time to time. The board at Washington will probably hold its first session about September 7, 1909, and on such other dates thereafter as may be designated by the Surgeon General.

This should be welcome news to a number of young physicians who are desirous of entering the corps and who do not wish to wait until the usual examinations are authorized; also to those who are near the maximum limit of age.

Physicians who are successful in the examinations by the Washington board will be given employment at Army posts, as their services are needed, as 1st Lieutenants, Medical Reserve Corps,—salary \$2,000 per annum—until the next session of the Army Medical School, when they will be ordered to attend the School as "student candidates."

Full information concerning the examination can be procured upon application to the "Surgeon General, U. S. Army, Washington, D. C." The essential requirements to securing an invitation are that the applicant shall be a citizen of the United States, shall be *between* twenty-two and thirty years of age, a graduate of a medical school legally authorized to confer the degree of doctor of medicine, shall be of good moral character and habits, and shall have had at least one year's hospital training or its equivalent in practice.

The examination in subjects of general education (mathematics, geography, history, general literature and latin) may be omitted in the cases of applicants holding diplomas from reputable literary or scientific colleges, normal schools or high schools, or graduates of medical schools which require an entrance examination satisfactory to the faculty of the Army Medical School.

The medical service of the Army permits of a great variety of general medical and surgical practice, besides affording opportunities for those specially qualified to engage in special work, such as sanitation, chemistry, pathology, microscopy and bacteriology.

All appointments in the Medical Corps are made with the rank of first lieutenant (\$2,000). At the end of three years the officer is promoted to captain at \$2,400 per annum, which, at the end of five years' service is increased to \$2,640, etc. In addition to this, officers are furnished with quarters, medical attendance and medicines for themselves and their families, the privileges of the commissary, mileage at the rate of seven (7) cents a mile when traveling under orders, and allowed one month's leave per year with full pay, which may be allowed to accumulate to a maximum of four months; also the privilege of retirement. These allowances are estimated to add from \$1,200 to \$1,600 to the yearly compensation in the grades of First Lieutenant and Captain.

Applications for permission to take the examination may be filed with the War Department at any time. Unless the statement is made that the candidate desires to appear before the Washington board at or about a certain time, arrangements will be made to have him examined before the next board assembled in his vicinity.

If a person complains of distinct symptoms of a foreign body in the eye and eversion of the upper lid fails to reveal its presence, a search should be made for it in the upper sulcus of the conjunctiva. This can be done by lifting away the lid from the eyeball with a spatula. Eyelashes often lodge in the sulcus and thus escape detection, if this is neglected.

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American Medicine

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PUBLISHED MONTHLY BY THE AMERICAN-MEDICAL PUBLISHING COMPANY.

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Complete Series, Vol. XV, No. 9. New Series, Vol. IV, No. 9.	SEPTEMBER, 1909.	\$1.00 Yearly In Advance.
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The North Pole has been for years the goal of the most intrepid and courageous explorers of every civilized nation. Apparently at last it has been attained, and the honor of first reaching this coveted spot at "the top of the world" is claimed by a Brooklyn physician, Dr. Frederick A. Cook. April 23, 1908, is the date which Dr. Cook states must go down to history as marking the conquest of the pole, but while the world was agape with wonderment and delight at his splendid feat, another claim was flashed to civilization from the bleak coast of Labrador.

Lieutenant Peary, whose whole life almost has been devoted to reaching the north pole announces that he triumphed on April 6 of the present year! Thus is created one of the most intensely dramatic situations that history records; two men, of the same nativity, with homes in the same city, both within one week of each other announcing the discovery of the most famous spot on earth, the north pole!

An unfortunate controversy was precipitated at once by the savage attack of Lieutenant Peary on the veracity of Dr. Cook. The friends of both men lined up promptly, with the result that the work of both has been more or less discredited. An occasion that should give rise to genuine congratulation to both men, and cause the whole United States to exult at the remarkable achievements reported, has produced

nothing but vituperation, charge and counter-change, bordering on a condition of scandal that is a disgrace to all America. Neither Dr. Cook nor Lieutenant Peary is to blame, although it must be admitted that Dr. Cook has carried himself much better from ethical standpoints than his opponent. Lieutenant Peary, in view of his own great achievements and his recognized scientific status, could well afford to wait for a proper time and place to attack and expose Dr. Cook—if he has sufficient data and proof to maintain his counter-contention. His precipitate gibes and statements, unsupported by evidence, are sure to be taken by many unprejudiced people for the expressions of a man jealous and chagrined. And if he fails to produce proof, convincing beyond all doubt, he will have discounted his own brilliant feat, which in spite of Dr. Cook's precedence, should stand as one of the grandest in all the annals of exploration.

The American medical profession believes in Dr. Cook. As an honorable colleague, his preliminary announcement is accepted with respect, and implicit confidence is felt in his ability to prove his claims. That the presentation of data and complete evidence is expected, nay, will be demanded, in no way reflects on Dr. Cook's veracity. It is an obligation he owes to the world,

and above all, to himself. Lieutenant Peary is in no different position, and while his great reputation and standing as an Arctic explorer, and his recognized familiarity with polar conditions give his pre-

stand as one of the great journalistic feats of history. Dr. Cook was less fortunate in the publication of his preliminary announcement, and as a consequence much of it remains to be told. As this is written, both



DR. FREDERICK A. COOK.

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liminary story every credence, he too, must expect to submit his proof.

Through the enterprise of the *New York Times* Lieutenant Peary's wonderful story was given to the whole world with a completeness and despatch that itself will long

men are homeward bound and only a few hours separate them from the arms of those who love them for themselves, and the enthusiastic greeting of those who will worship them for what they have accomplished.

As the controversy stands both men deserve the fullest credit; Dr. Cook for being the first white man to reach the north pole and triumph in the face of what at the best must have been conditions to try the body and soul most fearfully; Lieutenant Peary, for a lifetime of consistent endeavor, the results of which made possible the conquest of the pole nearly a year before he ultimately made it himself. The honor of priority which Dr. Cook claims, while important from the personal and sentimental view point, is therefore equalled to a large extent by the honor which obviously belongs to Lieutenant Peary's years of hard, though effective, work, the value of which, Dr. Cook, as we understand it, has been prompt to admit.

The world awaits the submission of all essential proofs, and pending the final verdict of those competent to decide as to the validity of their respective claims, all fair-minded men will extend to both of these American heroes the respect and consideration that their claims demand.

Dr. Cook's standing as a medical man is such as to insure him the respectful attention of his colleagues. It means something to be a physician of good standing in New York, and it is quite beyond belief that a man of Dr. Cook's attainments and known character would take the slightest chance of forever disgracing himself and his family by false claims. Errors and mistakes are always possible, and this, of course, calls for competent, independent investigation of Dr. Cook's astounding claim of having been the first man to reach the north pole. But until such investigation has been made, Dr. Cook as an American citizen and as a medical man in good standing has a right to ask that his statements be taken in good faith, and that his per-

sonal honor and good name be kept free from premature or unwarranted attacks.

It has been known for a long time that bad feelings existed between Lieutenant Peary and Dr. Cook, and their affair has only been kept from becoming an open scandal by the kind offices of those interested in both men. Knowing that the public knew more or less of this, Lieutenant Peary's attack on Dr. Cook without also submitting competent supporting evidence seems to have been in bad taste, to say the least. Lieutenant Peary certainly can have nothing to fear from a charlatan and he only needs to submit adequate proofs to crush Dr. Cook for all time. At the proper time and place let him give his evidence to the world and make his allegations of fraud. But out of respect for himself, if not regard for his countrymen the world over, Lieutenant Peary will do well to cease long distance mud throwing. It not only serves to create the most ugly suspicions, but fearfully cheapens achievements that ought to rank as the greatest of the age.

Every unprejudiced man will join us in preserving an open mind until both explorers have had what they are most certainly entitled to, an opportunity to present their claims with all supporting evidence. Until then the American spirit of fair play should not allow over-zealous partisanship to engender useless animosities and bitterness. The medical profession expects Dr. Cook to make good every claim and in the meantime he will have no reason to complain at the loyalty and well wishes of his professional colleagues.

The dangers of the dry shampoos that have recently come into vogue are unquestionably not sufficiently recognized. The growing use of some of the light

hydrocarbon or other volatile compounds is probably fraught with the most serious consequences, but even the apparently innocuous shampoo powders have their drawbacks. Carbon tetrachlorid seems to have been used most extensively in this connection, and the number of fatal accidents which are being recorded, makes it incomprehensible that a drug so dangerous should be employed at all. Its formula, CCl_4 shows its near relation to chloroform and its anesthetic properties are almost as marked. The vapor given off is considerably heavier than air and rapidly accumulates around the face when the liquid is applied to the scalp. Innumerable cases of semi-unconsciousness are reported, it is claimed, by the English hair-dressers, but the patrons, women almost exclusively, do not object, and so the "playing with death" goes on. It is a frightful commentary on the fatuity of the day. The vapor of carbon tetrachlorid aside from its anesthetic or stupefying effect is a heart poison and in the presence of the slightest cardiac weakness is extremely liable to produce a fatal result.

It would seem, in view of such definitely established facts and the several deaths that already can be traced to this highly toxic agent, that the use of all such preparations should be interdicted once and for all. Society through governmental act must once again save the foolish from their lack of common sense.

The shampoo powders may not present toxic dangers, but their use is certainly founded on anything but a rational basis. When a person shampoos his or her scalp, the object is usually to secure a cleanly condition, to remove from the hair and scalp accumulated dust, dirt and the autogenic residue of glandular activity. In the majority of instances the debris is dry and

many times closely adherent to the scalp. If it is not dry, it is always oily and sometimes pasty. In either event a powder cannot possibly soften, dissolve and remove the accumulated material. From its very physical nature a powder would seem, therefore, to be contraindicated and actual experience proves that it is for most people. A few perfectly normal scalps might have a very fine impalpable powder applied a few times with little or no harm to the hair, but in a short time the glandular orifices would be occluded and the hair would suffer accordingly.

As the *Lancet* (London) tritely says, it is doubtful if dry hair washes are necessary at all. Simple soap, preferably a dependable tar soap, and good clean water serve every purpose, even for the longest and thickest hair. Shampooing at regular intervals has reached in the United States the status of an hygienic habit, and the benefits are being shown in the already improved condition of the hair and scalp of the average man, woman and child.

A condemnation of sun parlors appears in an article by Dr. Leonard W. Ely, describing the treatment of Pott's disease at the Sea Breeze Hospital, (*Medical Record*, June 26, 1909.) Moreover he says that the proper treatment is not yet adopted by city institutions, where the little sufferers are cooped up and allowed "access to a roof once in a while, when convenient, and when the weather is warm and pleasant. Charitable persons are building sanatoria for them which contain beautiful sun-parlors to let in the sun and keep out the air." In view of the proved necessity for "fresh air all the time," these accusations amount to a charge of preventing the recovery of patients and show the deplorable

backwardness of phthisiotherapy to which we have so frequently referred.

Ely says the three essentials are surgical treatment, fresh air and good feeding, but does not once mention the benefits of sunshine—probably because they are difficult to find. Nevertheless he will possibly hear from those who have asserted that sunshine is so good that they apply it to the naked bodies of the patients in these very sun-parlors.

Phthisiotherapists must explain their differences, or the public will be so much bewildered that they may refuse further contributions. It is therefore highly essential that the benefits of sun-parlors over open air life be proved, or the glary things abolished. We congratulate Dr. Ely and admire his bravery in attacking entrenched orthodoxy. It is certainly refreshing to read an article which omits the old ridiculous dogmas. We beg our millionaires to pour out their wealth to those modern institutions which are accomplishing wonders by keeping their little patients in the open air all the time. In the meantime it may not be out of place to suggest a reform in city institutions, for Dr. Ely remarks that "the lesson has not yet sunk in." It is dreadful to think that any class of cases is not given the treatment universally acknowledged to be the only one—out door life. Sun-parlors merely perpetuate the old deadly indoor life and until they are proved useful they must be condemned, on the strength of the facts presented by Dr. Ely, not only in tuberculosis but in every other disease.

The Inadequacy of the Sanatorium Treatment of Tuberculosis is discussed by Dr. Maurice Fishberg in the *Medical Record* of June 12, 1909, and the facts therein stated, disheartening though

they be, must be considered by the medical profession with a view of determining whether it is right to spend such large sums of money for the benefit of a *few* patients, whereas if it is devoted to the home treatment of *many* the ultimate life saving may be doubled or multiplied still further. It has long been known that sanatoria have not had the slightest effect in reducing the tuberculosis mortality, for the decline which began long before they were thought of, has been continuous and they accommodate but a tiny fraction of the infected. Fishberg, as well as several European physicians, now presents facts which seem to indicate that the ultimate results in sanatoria are not marked enough to justify the expense. These are disquieting thoughts and they place the advocates of sanatoria on the defensive, but the matter is of such vital concern to social welfare, that the institutions must now show cause for their existence. This is disheartening, for if there is anything most of us have considered settled, it is the necessity for sanatoria, not only for the immediate effect upon the patient but also for the ultimate result in ridding the race of the pest. At the same time we are not infrequently horrified at the high mortality reported from certain institutions, particularly in the summer, and it is now time to take stock of our facts to make up our balance sheet so as to find out whether we are really engaged in a profitable enterprise.

The cause of the diminution of tuberculosis mortality must now be found. It is generally assumed to be due to the better feeding and higher standard of living of modern life, but the dreadful overcrowding and undernutrition still so frequently reported would seem to indicate that conditions are not improved sufficiently to ac-

count for the change. The diffusion of hygienic knowledge is also claimed to be a big factor, but Fishberg presents evidence that the vast majority of us are infected at some period of our lives and yet recover without any special change in our habits. Most of the cured cases never heard of sanatorium methods and did not even stop work. It is time to inquire whether the process is not the invariable course of events when mankind meets a new enemy. Tuberculosis as a scourge was coincident with the concentrations of population made necessary by the modern industrial era. Prior to that, people lived a village or country life, often in the open air and had fairly good food, but factory life brought underfeeding and overcrowding in which infection was easily carried. As late as 1850 tuberculosis began destroying families recently removed to the cities and even yet the phenomenon is reported. Perhaps then, nature's process of selection is really responsible. The susceptible die, and the most resistant survive, transmitting their ability to offspring, so that there is a progressively increasing number able to resist infection by their own tuberculins. There is some evidence that the children of the tuberculous are even more resistant than the parents, from an acquired intra-uterine immunity. The survival of the fittest is still a living force, fully competent to account for the modern reduction of tuberculosis mortality. Every cured case hastens the process and we need not depend solely upon nature's destruction of the most susceptible.

The hopelessness of curing many consumptives is the depressing lesson from Fishberg's facts. Diagnosis is still a sentence of death in a large number, even if most of the cases recover without passing

the incipient stage, and we do not refer to the sanatorium alleged cures of cases in which the diagnosis was doubtful but to post-mortem evidence where death was due to other causes. The poor man cannot secure proper food or housing and even if he did, his disease would relapse when he returned to the causative environment. They cannot be supported indefinitely and charity cannot get funds to check more than a few cases. Consequently elimination of the susceptible must continue under our very eyes and we are helpless to stay the process, though we could if we had an impossible amount of money. It is quite likely nevertheless that the full realization of the dreadful facts will start a campaign of education among the submerged inefficients and that the outlook is not so bad after all. It surely seems that Fishberg's plea for more attention to the home treatment of the ninety and nine who cannot reach a sanatorium or even stop work, is in the right direction and will eventuate in a tremendous saving of life without in the least checking the increase of racial immunity, and indeed it may hasten the time when the bacilli will be more or less harmless to all. There is a silver lining to every cloud and there is no sense in being pessimistic over any dark pathological picture. The race has always evolved upward in spite of adversities which seem almost fatal to progress. The present anti-tuberculosis crusade is bound to succeed even if it were not an adjunct to nature's tendency to produce an immune race. *Optimism should be the motto of every physician.*

The advantage of altitude in the treatment of pulmonary tuberculosis is apparently proved quite conclusively according to the statistics of Bullock and Sands (*Jour. Am. Med. Assn.*, June 19, 1909)

who seem to show decidedly better results in the sanatoria of New Mexico than those of the east. Nevertheless, before accepting this conclusion it is well to remember that nothing deceives us so much as statistics. In the first place, there is a suspicion that the cases which find their way to the far off places are of a distinctly different type of people than those which are found in home sanatoria, and are more amenable to treatment. In the second place, the few months of observation are wholly insufficient to determine the ultimate result. Eastern sanatoria are now following up their "cured" cases and the number who die of a relapse or reinfection are appallingly numerous. That is, life has been prolonged but the disease is not cured. There is a beginning suspicion also that though elevation does cause a remarkable temporary improvement, the ultimate results are practically the same as those of lower levels—that is, after ten to twenty years, the same proportion have died of consumption. These matters must be settled, for if a man has more chances of having his life prolonged by ever so little, by all means send him west, but if those who find as good results everywhere else are correct, the patients are merely put to unnecessary expense.

Altitude may not be suitable for every incipient. Unfortunately there is not a word said as to the kind of patients which do best in elevated places—except that none should be sent unless they have plenty of money. This raises another suspicion that there is something which kills a poor man sooner than in the east—a charge that has been whispered more than once and one we would all like to have disproved. The whole subject of climatic treatment is in a chaotic state from the contradictory reports

and it is highly desirable that it be placed upon a more scientific basis, and this cannot be done until we have a physical description of the failures and successes. We may then find that tall men may have to be sent in one direction, the short in another, and likewise there may be different results in other characteristics. The present reports group all the European races together, although it is well known that some of them are injured where others flourish. Until the climatic experts can tell us what kind of people are best for any particular climate, it might be safer to keep all cases at home. That is, we are not yet justified in forming positive opinions one way or the other. The few cured cases must not make us forget the multitude of the dead.

The underfeeding of school children has again been brought up by an investigation made by Dr. E. Mather Sill, whose article (*Journal of the Am. Med. Assn.*, June, 19, 1909) is painful reading. He presents evidence which leads him to the belief that about one and a half million American school children are ill nourished and as a result are stunted in growth, mentally dulled, and suffer from numerous pathological states which still further destroy their efficiency. Many are ill-clothed, ill-housed, and rarely bathed. Moreover the parents are unable to make enough money to feed their children, let alone shelter them properly. If private charity or state aid is to be given it will require at least \$150.00 a year to restore each child to health and keep it there. As such an enormous fund is wholly out of the question there is nothing to do but watch the results helplessly and to give aid to those most in need of it—a mere drop in the bucket.

Dr. Sill's proposals to end the deplorable conditions are interesting but impractical. He did not mention the fact that the real enemies of society are the stupid brutal parents who bring into the world a swarm they cannot support. In no part of the world can a common laborer feed and clothe a family of eight, and as an actual fact child labor has always been necessary for family existence. In no other way could the race survive. Until recently the labor was exclusively wholesome farm chores, and if the farmer had no sons to help him, he adopted boys for their labor. When factories replaced farms, child labor became unwholesome to the point of murder, and had to be prohibited. The result is now evident—undernutrition of children who in former ages supported themselves on the farms, but who are now in school and without means of support.

Compulsory education of the poor is being placed in an entirely new light. Dr. Sill has shown that it is a waste of time and money to attempt to educate a starved brain, and moreover the children whom the law forces into school are the very ones who should be outdoors all day long. He mentions the remarkable improvement following systematic feeding and a healthy life of these undersized dullards and expresses a hope that, as the parents are unable to feed them, society will take up the task by means of a good nutritious midday meal in school. This step towards a socialistic community has already been taken, where families are unable to support themselves, and the immediate results are generally reported to be highly satisfactory. Still, the ultimate results cannot be conceived, but enough has been reported to raise some apprehension. Families have been found

that have taken advantage of the school meals, to reduce home diet still more, a premium thus placed upon procreation of inefficient. Besides that, a dangerous pauperism is established in place of the struggle for existence upon which family health depends. Nevertheless, it is claimed that if every man has a right to produce as many children as he pleases, when society takes from him the immemorial right to their labor without which he cannot support them, and they are forced into schools where they learn many things of no earthly use to them in making their living, then society must feed them. If we cannot do this, it is said the children must be permitted to do what they can to earn food.

Should there be compulsory education?

This is such a revolutionary thought that no one can say what is the proper plan—we are only concerned with the growing volume of opposition to universal education as now practiced. Scarcely a week goes by that some thoughtful person does not give voice to the demand for "schools" in which the tots can be taught as soon as possible to support themselves, and at the same time do a little towards helping the family. The physician is interested mostly in the problem of preventing diseases due to the present starvation of school children but whether he should join in the movement against compulsory education is a matter which cannot be decided without long and serious study. Heretofore pedagogs have assumed that parents can always support children in school, but now that it is proved impossible, the medical profession must take an active interest in reform. Society can either feed the children produced, or prevent procreation where the parents are unable to support children, or let the tots go to work without education.

What shall it be? There is too much preventable sickness under present methods and something must be done soon. Denial of the facts is criminal, for it perpetuates murder of the innocents. It is said that in parts of Europe where children go to school part of the morning and work part of the afternoon, the results are excellent. It might be a solution of our own problem, at least it deserves discussion and trial.

Uterine Fibroids from the Standpoint of the General Practitioner. A prominent American gynecologist is credited with the statement that a fibroid is better in a bottle of alcohol than in a woman's abdomen. This may be said to fairly represent the view of those who regard a fibroid much in the light of a foreign body which is a constant menace to health and life if left alone. The adherents of this radical policy argue that even a small tumor which causes few, if any, symptoms is apt to increase in size and then become a source of serious trouble, or to later become the site of a malignant process. They further point out that there is a distinct relation between uterine fibrosis and cardiac disease, particularly myocardial degeneration, and that by removal of the former we may be able to arrest the latter. Looked at from this point of view the operative treatment is not only curative but prophylactic. As one gynecologist has put it—the *immediate* risks of hysterectomy are much less than the *ultimate* dangers of a let alone policy. Here, however, we tread upon debatable ground, and though it cannot be denied that, thanks to improvements in the technic, the mortality of hysterectomy has been materially reduced, it is still far from being an operation to be lightly undertaken, even by those of widest experience.

An expectant plan is therefore more likely to commend itself in the average case of uterine fibroids. If the tumor is of large size—and this applies to single and multiple growths—and is interfering with the functions of adjacent organs; if it gives rise to profuse and exhausting hemorrhages, there will be no question as to the necessity of its early and complete removal. On the other hand, in a woman nearing the menopause, with a fibroid of moderate size, immediate radical surgical intervention should be reserved for cases in which marked metrorrhagia or menorrhagia exists that cannot be controlled by other means. It is in these patients that a careful curettage and appropriate after-treatment often exert a very beneficial effect upon the hemorrhage, by relieving the endometritis which is so commonly associated with fibroids. Such cases, if kept under observation, may be safely allowed to drift to the menopause, in the hope that the tumor will cease to grow or even undergo a reduction in size, and that any symptoms due to its presence will then permanently disappear.

Fibroids in young women present a therapeutic problem far more difficult of solution. If the tumor is rapidly growing, if it is causing severe symptoms from pressure and obstruction, or marked exhaustion from copious hemorrhage, no one will question the wisdom of prompt operative intervention—enucleation when possible, hysterectomy when unavoidable. Still there remains a considerable number of cases in which judicious conservatism should constitute the keynote of treatment, and removal of the uterus should be the *dernier ressort*. Curettage, the use of local measures to reduce the accompanying uterine congestion, the administration of

internal astringents for control of hemorrhage, etc., may obviate the necessity of radical intervention. Recently excellent results have been reported from the use of high frequency electrical currents, and it has been claimed that the X-ray exerts a restraining effect upon the growth of the tumor. But such patients must be watched—and watched closely. Any marked increase in the size of the fibroid or the occurrence of pressure symptoms or attacks of severe metrorrhagia, is an indication that operation can no longer be safely postponed.

The individual equation therefore counts as strongly in the treatment of fibroids as in that of most other conditions. Cases characterized by occasional slight hemorrhage certainly require less radical means of relief than those in which the bleeding is frequent, profuse and exhausting. In the former hysterectomy means serious risk of life and perhaps subsequent invalidism, while in the latter it may constitute a life-saving measure. Granting even that a certain small percentage of fibroids furnish the nidus for subsequent malignant growth, this alone does not logically justify a dangerous operative procedure.

An Association for Clinical Research is proposed and on another page will be found the open letter that has been addressed to the profession of America. This communication plainly indicates the necessity for placing bedside observation on a scientific basis, and to most of its postulates we heartily agree. It is a fact to be regretted that laboratory investigation has somewhat overshadowed clinical study. The attraction of laboratory work, the possibilities it offered, and the more or

less positive character of its results, have unquestionably served to bring many zealous students under its spell. The exceptional scholarly ability of those who have found laboratory investigation a most gratifying vocation has doubtless been responsible for the startling advances that have been made. Since the brightest minds, the hardest workers and the best men generally have been attracted to the laboratory side of medicine, it is not surprising that the practical and clinical aspects of disease have suffered from neglect. For some time many of our leading men have been urging the desirability of making the laboratory less independent of medical practice and more nearly what it should be, a true auxiliary, reinforcing and augmenting clinical investigation—never superseding it.

The value of the laboratory should not be discounted. Its countless discoveries of fact and the application of not one, but many of its methods of research, to the diagnosis of disease, have made possible nearly if not all of the modern triumphs of clinical medicine. To minimize the practical importance of laboratory work is therefore to do a grave injustice to a branch of medicine that has unquestionably brought the whole science closer to the coveted goal of exactness and certainty. No, let us be fair, and in our growing appreciation of the necessity for closer attention to disease in its bedside aspects, never lose sight of the clinical opportunities that have been provided by our laboratory confreres. Cooperation is obviously urgently needed; on the one hand to bring into use the results of the laboratory and through practical application secure the recognition deserved; on the other hand to

rescue clinical medicine from the empiricism that has handicapped it, and make it not only useful but scientific. Any movement that has such laudable objects as this proposed organization of an American Association for Clinical Research will not lack for support and we look for a substantial success from the very outset.

The federal law as to harbor pollution is in sad need of revision, as it has been discovered that the government prohibits any thing inimical to navigation except sewage. That is, the only thing most harmful to public health is the very thing permitted. Of course it is known that in time, the organic matters in sewage are destroyed and the sedimented matters become almost carbonized, but it takes a long time, and the amounts now flow into the harbor faster than they are destroyed. It should be an easy matter to prove that sewage can be destructive of navigation as soon as it reaches a certain percentage of the river water—a percentage much below that of the present discharge into the harbor of New York, but it is amazing that our national laws should be so archaic as to except sewage. Surely public health is of as much consequence as commerce, if not more, for it is evident that trade diminishes when disease stalks in. Expansion of our business demands a clean harbor as well as unobstructed channels. A department or bureau of public health is needed for its educational influence on law makers, who must be convinced that sewage must be kept out of harbors even if it does not sediment the channels. Let us restore all our rivers and harbors to the condition of purity in which Henry Hudson found them.

Federal objection to the proposed Bronx sewer is the good news derived from the published Bill of Complaints filed by the Attorney General in the Supreme Court, asking an injunction against the State of New York and the Sewer Commission, prohibiting the construction of the proposed system. This is certainly a step in the right direction and a big one too, for it may lead to a fixed governmental policy of prohibiting the use of any water courses for untreated sewage. The suit against Chicago unfortunately failed because St. Louis could not prove that any of the filth reached that far, and the case was settled on the sole ground that there was no damage proved. The policy of sewage disposal was not touched upon, but now there is hope for an epoch-making decision, reversing the filthy habits of a century. There does not seem to be any objection to the Bronx sewage entering the Hudson if there is proper purification, and, by-the-way, such treatment will be necessary even if the sewer outlet is at the mouth of the Bronx for the currents will bring it into the East River. Consequently the people of White Plains, Yonkers and other localities to be served by this sewer now realize that they must dispose of their own filth and not throw it into their neighbors' back yard. New Yorkers have been throwing theirs on their own front yard and are becoming appropriately ashamed of the practice, which will cease as soon as proper methods can be devised for purifying the sewage.

The efficacy of sugar pills is a point for therapeutic discussion, if we are to believe the analysis of a widely used British proprietary medicine, which showed 100

per cent. of sugar and nothing else. No doubt there are thousands of Englishmen who have recovered from some trifling ailment after taking a few of these pills and are willing to give certificates of cures of everything from consumption to corns. Americans are not the only ones daft on patent medicines after all, and our English critics should not throw so many stones at us in the future—now that their own houses are found to be made of glass. The serious side of the matter is the real comfort so many people get from dosing themselves with any old thing, whether they are well or sick. It is a human trait well nigh universal, and must be considered by every successful practitioner. Yet it is wise to pause now and then and think whether it is best to give way to the patient's desire for medicine, or by being honest, drive a little "trade" to practitioners who are better tradesmen than physicians. Ethics is queer business, if anyone argues that deception is justifiable providing it is comforting to the sick. Honesty is the best therapeutics in the long run, in spite of a little temporary success of methods so closely allied to quackery, that even Solomon might be puzzled to tell what to do.

The nervous strain of teaching is the explanation usually advanced for the neurasthenia which causes the retirement of so many of the teachers in the public schools of New York City. In the year ending Feb. 28, 1909 nearly half of the 95 applicants for permanent relief from duty were so afflicted. This is a deplorable state of affairs and it is rather remarkable that in view of the frequent comments upon the matter, the faults have not been discovered and corrected. The work is

not specially exhausting, though to be sure, other people's children do rub us up the wrong way as a rule. It seems more likely that there is something essentially wrong with the hygiene of the school room, but of course such suggestions are futile unless one can particularize. At any rate, the whole subject of the teacher's life must be gone into, not only in her interests but that of the children, for it is reasonable to suppose that if the faults are in the sphere of school sanitation, the pupils are injured as well as the teachers. Perhaps every family physician knows of some fault which has affected one or more of his little patients and publicity will be of enormous benefit in starting the proper remedies.

School teachers should be examined

by the school physicians from time to time as well as the children under them. It is no uncommon thing for teachers to continue at their work when they should be home in bed. Probably many physicians have known instances where teachers continued with their classes, though seriously ill with tuberculosis. Financial conditions doubtless made it necessary for the afflicted teacher to keep at work as long as possible, but what a menace to the children! In such cases the greater interests of the many should immediately obliterate the needs of the individual, however urgent. School boards should make intelligent provision for protecting our children from teachers who have become unfit in even the slightest degree, meeting faithful service by a suitable pension or a bounty for immediate needs if possible, but never endangering for a minute the health and welfare of our children through false sentiments of pity or sympathy.

ORIGINAL ARTICLES.

THE POST-OPERATIVE PATIENT.¹

BY

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A brilliant operation with an apparently brilliant prognosis may fall by the wayside from a poor or neglectful post-operative consideration.

The first consideration in post-operative cases is the pulse and respiration. These call for stimulation not only in cases of great loss of blood, but also in those patients in whom a profound central impression is evident.

In the first variety, haemorrhagic shock, salt solution, one and a half pints at 98 to 110 degrees F., with a half to one ounce of whiskey is indicated. A Bennett high-ball is a most satisfactory immediate agent. Subsequent to or with this the hypodermic use of one-thirtieth to one-fifteenth grain of strychnia is of marked benefit.

In the second variety, the nervous or central shock, a small dose—one-eighth to one-sixth grain—of morphia is the remedy that I prefer, followed by salt solution or strychnia.

Stimulation, when necessary as a daily agent, is amply met with in strychnia, one-fortieth to one-thirtieth of a grain every four to six hours, unless physiological effects be manifested. I personally cannot see any great results from the use of alcohol in these cases, except as agents to promote sleep and occasionally digestion.

Nausea and vomiting:—These are guarded against, that is, in a prophylactic

sense, by the use of nitrous oxide and ether sequence in putting the patient under the anaesthetic, while the post-operative treatment for this condition consists of all the standard household agents, smelling of vinegar, etc., and those methods the aim of which is to eradicate the anaesthetic from the system as rapidly as possible. Frequently the early intake of water or weak tea will promote autolavage and by this means we are able to allay the excitability of the ether, etc., irritability of the gastric mucosa. Phosphate of soda in warm water as an emetic has proven successful in the same manner.

Those agents provocative of emesis cannot be employed in all cases, particularly not in large abdominal wounds. Here the use of sedatives and anodynes plays a great part.

The *position* of the patient has undergone markedly radical changes. I personally prefer my patients in the semi-sitting posture as soon as they are placed in bed. I believe, and in this I am upheld by Dr. Thomas L. Bennett, the professional anaesthetist, that patients so placed make a better post-anaesthetic recovery, and with less nausea and vomiting than those placed in the prone position. Subsequent to their recovery from the anaesthetic unless otherwise indicated, or in the demands for the Fowler's position, I allow the patient to assume any position of comfort, without any restrictions whatever.

Feeding of the patient has always been to me a matter of great moment, as I believe that proper metabolism, etc., is essential to a speedy and vigorous convalescence, and an early return to duties, be they what they may. I am accustomed to give my patients liquid nourishment as soon as vomiting and nausea have ceased, and this is very likely to be at the end of

¹Read before the Richmond County Medical Society, April 14th, 1909.

twelve hours, and occasionally, but not rarely, at the end of six hours. The second twenty-four hours, if the temperature is not above 100, he is given light or semi-solid diet and on the third day a generous regular diet is allowed.

In my stomach resections, or gastro-enterostomies, water after ten to twelve hours is allowed in two to four ounce doses frequently repeated. The following day water, tea, albumin water, peptonized milk and broth are given, and on the fourth to sixth day the patient is allowed cream or milk toast, creamed potatoes and spinach, junket, custard, etc. Diet is not forced, but the tray is given the patient, and he may eat if he cares to.

While not opposed to alcohol I never order it, except as an aid to digestion or as a sleep producer, unless the patient has been one of moderate alcoholic habits. Otherwise, water, orange juice and its watery preparations, lemonade, etc., are allowed with freedom, when medical conditions do not contraindicate.

Smoking. I allow all patients, male or female, this luxury or necessity as soon as they ask for it. The granting of a permit does not of a necessity mean taking advantage of it, and does most decidedly make the patient feel as though his existence is not one of "behind bars or under constant espionage." Certain it is that many a patient spends a better day after a smoke than he would if the permission were withheld. Then again, there is the influence of the tobacco upon the intestinal tract. Many patients, as we all know, rely upon a cigarette or cigar for an evacuation of the bowels. Cardiac depression from smoking has never been seen by me, and I feel that this is due to the fact that the tobacco is laid aside very soon in the first

few days, because the anticipated enjoyment was rather fancied than real, or that the desire was satisfied in a very short period as compared to the time required for the same result during health.

Out of bed. One who sees a post-operative patient out of bed on his third or fourth day is soon a convert to the early out of bed treatment. I do not believe in having my patients sitting out of bed on the afternoon of a morning operation, but prefer them to be fully oriented from the anaesthesia shock and effort pains. This is usually the condition on the third day in all ordinary major operations of the lesser closed wound varieties, although I frequently have my hysterectomies up on the third or fourth day. Appendectomies of the interval or non-drainage varieties are advised and ordered out of bed on the third or fourth days. All drainage cases, of course, prove exceptions to this rule, although I frequently have drainage cases up, well strapped, as soon as the apposition of the wound edges will permit. These drainage cases are allowed the semi-sitting posture in bed as early as the first day, unless gravity interferes.

The Fowler position is used by me in all abdominal cases of infection of the spreading or general variety, and I feel that my record last year of one death out of fifty-three generally spreading peritonitis cases in appendicitis was due in part to this most excellent device of the late Dr. Fowler.

In addition to the Fowler position in infection cases of the general spreading, etc., variety, I combine the Murphy method of proctoclysis, and to this agency, plus the Fowler position, I ascribe my success in the fifty-three cases mentioned above.

Urine. Constant and ever watchful care is taken with the functions of the kidneys.

Daily quantity is recorded, and examinations are made before and following the operation, and records kept. Should the quantity fall short Murphy proctoclysis is instituted, and five grains of diuretin every four or five hours is given, or some of the older and well established diuretics prescribed. I've often found brilliant results in cases of marked diminution, from glonoin, 1/100 grain every hour till six doses have been administered. The use of calomel seems to me, in some cases of diminution, to have a pronounced effect. Whether this is merely a coincidence I am not prepared to say.

Sugar in the urine in itself is not an evil of great magnitude, unless accompanied by the reaction of acetone, ammonia, etc. Should these be evident, proper dietary and medicinal agents should be employed.

On two occasions recently I've had female patients who apparently were suffering from diminution of urine in whom we found that there was only an overflow, with well distended bladders, so that the catheter has now become a constant thought with me in all apparent diminution cases.

Bowels. The greatest number of complaints made me in a year in the early post-operative period is that due to flatus. The patient complains of a sense of soreness, which he says is due to his abdomen being distended. This symptom is often overcome and frequently ameliorated by the use of the rectal tube. Should this fail a pint enema of salt, soapsuds or oxgall, etc., will usually be followed by relief except in the paretic peritonitis cases. Orders are given for catharsis, calomel is preferred in 1/10 grain sequence until ten doses are given, at the end of the first twenty-four hours, not of necessity to be

followed by a saline. An enema will often bring about the result with less disturbance both of stomach and intestines than a saline.

Pain. I am inclined to give as small an amount of morphia as possible, at the same time I never allow a post-operative patient to suffer. An eighth to a third of a grain of morphia will usually suffice, and then codeia sulphate or phosphate, a quarter to a half grain per hypodermic, will act sufficiently for all ordinary purposes. I feel that morphia not only obtunds the desire to urinate, thereby calling for the catheter, but is also provocative of most of our complaints of flatus. Codeia does not have the inhibitory effects upon the bladder and intestines that morphia does, and while it is not an anodyne, its narcotic effects are such as to class it with the mild anodynes.

Sleep. This necessity of all, is frequently absent for a time from our patients, and is due in all probability to several factors, among which we can safely place new surroundings, personal anxiety as to their outcome, unnecessary and unusual noises about them, unnecessary visitations by the family and friends, sleeping in the day to an unusual amount, forced relaxation from business, etc. These can in part be overcome by proper regulation on the part of the nurse and the physician.

Sleep Medication. Codeia, a quarter to a half grain, remembering that with many people codeia produces peculiar delirium. Sulphonal, trional, veronal, etc., to these three synthetical agents I am accustomed to give place in the order of their mention, and usually find that a combination of sulphonal with either of the other two works better than any single one in larger doses than the combined, a favorite combination

being five grains each of sulphonal and trional at eight or nine o'clock in hot milk or water, repeated in two hours if not asleep.

Veronal has given me a peculiar experience in several instances, causing me to use it very infrequently at present. Several of my patients, after taking five to ten grains of veronal, have had a delirium in which they have insisted upon getting out of bed and taking a walk, etc.

Drugs used. I am not inclined to a large list of drugs, but readily confine myself for anodynes and narcotics to morphia and codeia and for stimulants to strychnia and adrenalin and lately digalen with occasional calls upon camphor and caffein, although I frankly confess that where I've used the latter two, fatal results have been the rule, and although not classed as drugs, the infusions, or dermoclysis, of salt water, Murphy proctoclysis, and the direct transfusion of blood, and for the nerve manifestations, hysteria, etc., morphia, sodium bromide and asafetida.

Drainage. The question of changing drainage. I rarely use rubber tubes, except in gall bladder surgery, relying entirely upon rubber tissue, gauze, or a combination of these two. My first drain is not disturbed for several days, except to slightly move them in the second twenty-four hours, as often exudate forms about these drainage tissues so as to occlude the opening, thereby overcoming the very conditions for which they were used. On the fourth to the seventh day, if the drain is loose I change it, care being taken by introducing some instrument down along the original drain in all muscle separation wounds. This procedure prevents the loss of the track if the wound is sewed close to the drain emergence. After the second drain, i. e., the first post-operative drain, is

introduced I shorten and reduce the calibre as quickly as possible, so that in a week to twelve days my drain is either out entirely, or consists of a bit of rubber tissue only. I find that in those badly-smelling post-operative wounds the free use of balsam peru not only markedly diminishes the character of the discharge, but also diminishes the odor to a great extent. I never irrigate my drainage channels, but rely upon capillarity and gentle pressure when changing the dressing. Neither do I use hydrogen peroxide nor iodoform in any shape, except the latter in tubercular cases.

Visits by relatives and friends after the first day are allowed with freedom up to 9 p. m., unless fatigue, etc., are observed as a result. Rarely do I allow any of the family to sleep or stay in the same room with the patient.

One could write a book of many pages as to the possible complications, their prophylaxis and treatment, but I will limit myself to a brief consideration of the more frequent ones. Among them, and one of such gravity although fortunately not so frequent, is acute gastric dilatation, a condition when met with today, even with the most careful attention has an appalling mortality. This condition is recognized, as a rule, only when well established, by its physical signs of abdominal distress, percussion note over the abdomen, succussion note and the peculiar vomiting and vomitus. A few years ago a mortality of 80 to 90% accompanied this condition; now, with careful gastric lavage with salt solution or diluted limewater every two to four or six hours, marked diminution in the mortality rate has followed.

In addition to the lavage careful instructions must be given as to food or water in-

take. None should be allowed by mouth until the danger point is well passed. Position of the patient such as to favor the reducing of an angulation or the prevention of its formation is also advised, as, the patient's head lower than the body, and a right side position instead of a left, etc.

Haemorrhage—secondary. At the present date we meet this complication less often than formerly, but yet an occasional case occurs that causes us most acute suffering and anxiety. Only recently I had a terrific haemorrhage occur in a fourth week appendectomy (22nd day) from the skin and fat wound only, that almost proved fatal. No points for ligation were found, and gentle compress of the small drainage skin wound was sufficient to control it. These cases nowadays can only be due to sloughing, or, if of early occurrence, to slipping of a knot, etc. The treatment is obviously characterized by the source and cause of the haemorrhage.

Intestinal Obstruction, not of the gastro-mesenteric or gastro-duodenomesenteric variety described under gastric dilatation, occurs with all operators sooner or later, and is due when not parietic to a kink, or compression by adhesions or foreign body as a bit of gauze, sponge, etc. The prophylaxis, it seems to me, is best carried out by proper daily movements, and as stated under cathartics, I give my patients such cathartics or rectal enemata as may be necessary to produce an evacuation of the bowels in twenty-four to thirty-six hours after the operation.

Many of these obstructions are, fortunately, of rather a partial variety, due to soft adhesions binding the gut in such manner as to either form a kink, angulation or constriction, which, when positive peristalsis is induced, will readily break or give

way. I am a firm believer in obtaining and retaining intestinal peristalsis throughout the bed period of all my patients. Occasionally it is necessary to reopen the abdomen and search for such cause or causes, and remove them.

Early recognition means a low mortality. Signs of sharp abdominal pains of cramp-like recurrence, vomiting or ejecting of mucus to watery fluid, and visible peristalsis with no movement of the bowel should cause our attention to be devoted most assiduously to the question of obstruction.

Anuria, or suppression of urine, is only observed by a close tally of the amount of urine, and demands most prompt attention. The previous negative analysis of urine, i. e., the preoperative, does not of necessity give us a sure post-operative non-suppression, nor does the presence of albumin of necessity warrant the belief that our patient will be complicated with anuria. Should the evidence arise I refer you to the consideration of the urine above.

Delirium. Three times in a period of twelve months I have had this complication occur in a series of over four hundred and eighty major operations. One in a gall bladder case, a simple cholecystotomy, in a young woman who was somewhat depressed in mind as to her outcome, and markedly depressed in her physical condition, developed an acute melancholia. The second, a prostatectomy case, in a patient sixty-six years old, who upon his seventh day became highly maniacal, chiefly at night, and suffered delusions that were in themselves amusing and cruel at the same time. The third case was that of a male in the seventies, upon whom I operated for a gangrenous gall bladder. He also had delusions of family skeletons and persecutions, finally escaping from his special

nurse and jumping or falling from a window in his room, sustaining a fracture of each os calcis.

The male cases recovered in a very short time. I can only ascribe the delirium in the male cases to age and urinary excretion defects, the one passing fair amounts but containing chemical defects, the other passing large amounts, also containing chemical defects. In the woman I surmise that physical and mental depression, although she asked for the operation, had a great deal to do with her melancholia. While she is much improved her former physician states that she is not thoroughly recovered.

These cases require the utmost care and gentle handling, and close watching, as window jumping seems to be the one desire in all.

The prostatectomy case was a very good friend of mine, until one morning as I entered his room I was ordered out. I turned him over to another attendant for a few days, and then returned, to be met with further but milder objections. On a second return his mind had sufficiently cleared to again allow of my assuming control. The mental condition is to be met with proper food, sleep, and such medication as will produce sleep and quiet. The changing of attendants, removal of visits of objectionable relatives or physicians until such state of mentality is again in evidence to allow of the former surroundings, are of benefit. Changing the patient, as in the removal of my prostatic case from the Sanitarium to his home, is without question a marked factor.

Sepsis and infection in clean cases is to be obviated by the same care in the dressings as was in evidence at the time of the operation. Should infection be evident free opening and drainage of the wound is

first in order. The next are supportive and symptomatic, as in cases of infectious fever, etc.

Pneumonia can be prevented, without question, in several ways. The ether apparatus should be sterilized between cases. No post-operative patient should be placed in a bed adjoining a pneumonia patient, neither should he be placed in a draughty bed, until his balance is restored.

Hypostasis, a frequent concomitant in the aged, feeble, and infants, we always aim to prevent by postural changes, as the sitting and frequent lateral changes with the use of cardiac and respiratory stimulants.

Embolism—Pulmonic. No more ghastly picture in surgery is presented to us than that of a patient, perfectly well, who expires with a gasp or two following a minute or two of dyspnea. No premonitory symptoms in many of these cases exist, no evidence of the danger producing thrombosis, except in cases of asthenia or sepsis. Who has not had his interval appendix, simple prostatectomy or hysterectomy, etc., patient, with whom he or the patient's relatives have been laughing or joking, suddenly gasp and die from this dread complication? What can we do to prevent this almost invariably fatal termination to an apparently happy result? The unnecessary mauling and handling of vessels of size, unnecessary contusions of large areas of tissue, the advocating of early motions of the legs and thighs to prevent saphenous and femoral thrombosis, cardiac stimulation in cases of depression of pulse tension, etc., etc., while in the ultra feeble great care in sudden shocks and forced motions, straining at stool, and the use of the bed pan instead of the commode.

When saphenous, femoral or other

thromboses are demonstrable advice against massage or undue motility of the parts that may dislodge a clot forming embolus, and such medical treatment in partial occlusion cases as will aid absorption of the embolus. Finally, the operation of Trendelenburg, only recently advocated by this great surgeon, that of cutting down upon the pulmonary artery, opening it and removing the clot with specially devised instruments presents some hope, in those hospitals where all aids to rapid operating are at hand, of saving a few of these patients.

Bladder and kidney complications are more usually due to faulty catheterization or lack of it. How many cases of cystitis ureteritis and pyelonephritis can we trace to this so-called mild procedure. I personally prefer my patients to void, even in perineal operations, rather than have a catheter-induced cystitis, etc., result. When catheterization is absolutely necessary, then all preparations for its performance are carried out as though a major operation were to be done, and yet with such care and precaution we all of us know that an occasional vile cystitis, etc., results.

Hernia. Proper suture, in layers as nature made us, with primary healing is rarely followed by a hernia, and rarely requires a bandage or support, except as a mental aid to convalescence and a preventative of medico-legal complications. When drainage has been required I order a support, and usually for the latter part of the reasons given above. I've yet to see an elastic bandage or support that will hug the abdominal wall over an incision, and that will follow the wall excursions during sneezing or coughing. One can always place the hand in the gap made at these times. I now order one of the many good varieties

of straight front corsets, with anterior lacings, in all my female patients, and keep my male patients bound with adhesive from mid axillary line to mid-axillary line for about four weeks, and then discharge them without a binder unless they express anxiety for one. I then order the simplest variety possible, and never with a pad attachment.

Finally, when we discharge our patient at the end of three to six weeks, is he out of our care well and strong? In other words, do we have him report again, or not? No patient has his or her balance absolutely restored in such period, and should be instructed to the effect that for some time he may have pains (adhesions), that his bowels may require watching, that he may become fatigued easily, or that his endurance will be below par for a time.

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THE EARLY DIAGNOSIS OF GALL STONES AND THE IMPORTANCE OF NOT POSTPONING SURGICAL INTERFERENCE UNTIL SERIOUS PATHOLOGICAL CHANGES HAVE TAKEN PLACE.¹

BY

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In looking over the literature of cholelithiasis published prior to about eight years ago, I find that almost all of that enlisted under the head of surgery was confined to the diagnosis and operative indications and technic of the complications of gall stones, either in the gall bladder or in the gall ducts. Most of my own published papers were of this character.

¹ Read before the Nebraska State Medical Association, Omaha, Neb., May 4-7, 1909.

The presence of gall stones recognizable by the ordinary symptoms of biliary colic were seldom, of themselves, considered an indication for operative interference unless complications followed.

To enumerate some of these complications. (1) Invalidism resulting from chronic pain. (2) Intermittent pain complicated by jaundice and fever. (3) Remittent pain, jaundice and fever. (4) Gall bladder abscess. (5) Chronic perforation and localized peritonitis. (6) Acute perforation of the gall bladder. (7) Gangrene of the gall bladder. (8) Infections of the gall bladder or ducts without stones. (9) Chronic obstructions of the gall ducts. (10) Adhesions about the gall bladder. Today the vast majority of operations upon the gall bladder and ducts are done for some one or more of the above complications. In one of the largest surgical clinics, during 1908, one hundred eighty-three operations were done for the most serious of the above ten complications; and three hundred and thirty cholecystotomies "for cystitis and stones in gall bladder or cystic duct, one or both." From personal knowledge of the work in this clinic I know that an increasing percentage of the cholecystotomy type of operation is being done early, when the diagnosis of gall stones can be made. By an early diagnosis I mean the *pre-biliary colic* stage; what may be designated, the early irritative, reflex producing symptom stage. Surgery, with rational exceptions, to do the most good should be done as soon as it is possible to make the diagnosis of cholelithiasis. But you ask, "How are you to make the early diagnosis; and having made it, how are you going to persuade the patient to submit to an operation?" I answer, by educating the family physician

and internist to make the early diagnosis; teach him that the invalidisms and dangers of cholelithiasis are in the complications. During the past few years, surgeons when doing abdominal work, have been forming the habit of adding to the actual work at hand an exploration of other parts of the abdomen whenever the anamnesis indicated the possibility of disease elsewhere than in the locality of the pathology calling for the operation. It is surprising how often gall stones are discovered by this practice,—in truth, it occasionally happens that gall stones are the cause of the symptoms for which operations may have been done in the pelvis or on the appendix.

These surgical experiences combined with a careful study of the anamnesis have made it possible to group together a chain of symptoms making it not difficult in very many cases, to recognize early cholelithiasis. It must be admitted that the medical treatment of well developed cholelithiasis is hardly more than palliative. Relatively long periods of abeyance of symptoms may be secured in exceptional cases. If hygiene, diet and medicines are to do more than at present, the physician must study his cases better.

Some five years ago, I published a paper upon the "Surgical Treatment of Stomach Trouble and Bilioussness." In this paper I urged the importance of early diagnosis and surgical treatment, illustrating my subject by cases taken from an extensive experience. Since that paper was published I have again and again proven that altogether, many cases of this type are too long kept under medical treatment. I cannot agree with Mr. Moynihan that gall stone disease is never curable by medical means. I have seen such cases cured, but they have been few and far between. To

be cured medically, the early diagnosis is essential. In the early recognition of gall stone disease lies the hope of permanent medical cure. After gall stones have by their irritation brought about a degeneration of function in the gall bladder and gall ducts, lessening their elasticity, contracting in parts their calibre, it is too late for medical treatment to cure,—it can only palliate. In a recent paper by Mr. Moynihan (*London Practitioner*) "Cholelithiasis: its early Recognition and early Surgical Treatment," attention is called to the work of Professor Kehr whose great experience is alone equalled by his extreme conservatism in recommending operation. Kehr's operative work is confined to the treatment of the ten complications of gall stones given in the first part of this paper. His general mortality is 18.5 per cent.—a mortality rate altogether too high if the sufferers operated upon were not encouraged by his teachings to put off an operation during the earlier safer periods of their afflictions. What are the symptoms of early cholelithiasis? "The inaugural symptoms," Moynihan calls them, of cholelithiasis are sufficiently definite to allow of a confident diagnosis in a great many cases. These symptoms are referred, by all patients, not to the liver or gall bladder, but to the stomach. The comprehensive term 'indigestion' is used by all patients to describe their sufferings. 'Indigestion' means, to them, a pain, or discomfort, or uneasiness after food. The pain is not acute, but is rather a sense of fullness, flatulence, oppression, or distension in the epigastrium. This feeling comes usually half an hour to three-quarters of an hour after food. It is excited constantly by certain kinds of food; apples are frequently held culpable, and cheese also. Coffee, or tea, or certain

flavorings in puddings, or in 'made-dishes,' are known to produce an attack of this kind. The sensation of distress is relieved by belching, and especially by vomiting; it may at times increase so much in severity as to be described as an acute pain. The center of the pain is always in the epigastrium, although it may radiate to one side, or to the other. If it should be felt severely on the right side, a symmetrical pain on the left side is not seldom experienced. In the severer attacks the pain goes through to the shoulders, particularly to the right shoulder.

In such attacks there may be a 'catch in the breath;' the patient says that it is impossible for a deep breath to be taken, for as the chest fills a sudden stabbing pain is felt which cuts short the inspiratory effort. This spasm of the diaphragm is very characteristic of gall bladder diseases, and often distinguishes them from gastric or duodenal conditions, with which they are apt to be confounded. If close inquiry is made, the patients will often tell of an occasional shiver which is felt when the pain is severe, and is prone to come in the evening. The shiver, or chilliness, is never severe, never approaches a rigor in severity; it is rather a feeling of cold, a 'goose flesh' sensation, which lasts but a few minutes. At the same time the patient commonly experiences a sensation of weight and fullness in the head, of drowsiness, or of a dull, heavy headache. Attacks of migraine are sometimes noticed, especially when the patient is fatigued. Mental concentration, indeed work of any kind, then becomes burdensome. These are the 'inaugural symptoms.' If they persist or recur, in the characteristic form here described, there need be little hesitation in affirming the presence of stones in the gall bladder."

Five years ago I had this to say about early diagnosis, and my ideas have not changed today: "I am of the opinion that we all have much to unlearn before we can make desirable progress in the treatment of diseases of the abdomen, and more especially of all these referable by reflex or direction to the upper abdomen. This knowledge must come through surgery,—the bedside alone, or the post-mortem table, will not furnish this knowledge. It must be learned at the bedside, in the clinical laboratory, and at the operating table, all three. The simple none-life threatening diseases of the kind under consideration, will and must belong to the internist in the beginning, but proper knowledge of, and interpretation of symptoms, can only come through surgery. There are many text books upon diseases of the liver, stomach, and intestines, written by physicians and pathologists, and every encyclopedia of medicine or text book on practice, contains too much based upon a study of the symptoms during life and the findings after death. Surgery will bring simplicity out of chaos, and it is to the surgeon that we turn for this advance. The physician must get his knowledge from the surgeon as to just what it is that causes the symptoms 'biliousness' and 'stomach trouble,' and the like, and whether or no it may be safe in certain classes of these cases to rely upon medical treatment. He must learn, because the people depend upon him, when the proper time is at hand, when maybe, only the hand of the surgeon can cure or save life. It is not the rashness of the surgeon that kills, but too often the procrastination of the physician. Many mistakes have been made by surgeons, but there will be fewer in the future. These mistakes in interpretation of symptoms which

have led to uncalled for operations, will, after a while, when the symptoms and operative findings have been properly recorded, teach the benefits to be expected from medical treatment, and by its early employment prevent, in many instances, the probable necessity of later surgical procedure. It too often happens that a patient's hope is in his surgeon, when his safety should have been in his physician.

RECTAL EXAMINATIONS.

BY

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The object of this paper is to bring before its readers the essentials of an examination of these parts and to assist the physician in making an intelligent diagnosis of his patient's ailment instead of trusting to luck and a "shotgun" prescription in the form of an injection or application. Many general practitioners overlook details and make a cursory examination of patients suffering from rectal disorders. I have had many such patients report to me whom the doctor had not even examined.

Before we can diagnose or intelligently treat pelvic disturbances we must learn to inspect and palpate not only the exterior surfaces but also explore its hollow cavities. A thorough rectal examination not only includes the coats of the last few inches of the alimentary canal but the digital exploration determines the condition of all of the organs and structures within the true pelvis. In gynecology the rectal examination confirms the vaginal findings and in diagnosing conditions in the male pelvis it is the only method of actually feeling the parts in question. We cannot go into de-

tails here but doubtless every physician has cases at present where the weight of what has been said will be appreciated. The rest of this paper will be limited to the findings in and pertaining to the rectum; but I urge the reader to remember when exploring these parts that all the pelvic organs are bound together by one grand nerve plexus and nowhere else in the body are there so many reflex nerve impulses. Frequently a robust man is invalidated by direct or reflex disturbances when very little pathological change can be found. The practitioner who wishes to retain the confidence of his patients must examine the rectum carefully as he would any other part of the body, for the time is past when patients will be satisfied with a placebo. All modern textbooks on surgery find it necessary to incorporate a chapter on diseases of the anus and rectum.

Rectal diseases are always progressive, and an early diagnosis may mean a slight operation and no absence from business, while later the condition may be so exaggerated as to confine the patient to his bed for weeks or months. Almost every patient who realizes he has a rectal trouble informs his physician that he is suffering from piles and I am sorry to add, many doctors accept the patient's diagnosis and prescribe without ever examining the parts.

The symptoms of rectal abnormalities sometimes draw the patient's attention at once to this particular organ, but again, because of the intimate connection of the rectum and other pelvic and abdominal organs, the symptoms may be so obscure or the onset so insidious that reflex disturbances elsewhere are first complained of and the patient is treated for disease of some other organ. While the symptoms may refer in general to this part of the body,

they do not indicate the specific disease. The odor of cancer or the pain of fissure are characteristic, but they do not in any way indicate an associated condition or disease. The preliminary interrogation of the patient should be systematic, so as to cover carefully and completely the whole case without repeating. It is a good plan to let the patient tell his own history and for the physician to bring out the patient's age, physical condition and nervous temperament the duration of the disease and the progress of the symptoms since their appreciation, together with whatever effect they have on the general health. If pain is complained of, ascertain its character, whether it is sharp and cutting, burning, or dull and aching; and its relation to defecation, whether it occurs before, during, or after the passage of the stool; and whether it is constant or intermittent; and its location, as, at the anus, within the rectum, in the pelvis, or in the sacrum, or whether it radiates from a given point. The patient's statement that he has pain in the rectum is too indefinite to be accepted without further questioning. If there are any discharges, their nature, and the presence and amount of blood, mucus, or pus, are important. If blood is present, find out whether dark or bright. The sphincters must be investigated as to whether relaxed or abnormally contracted, and if protrusions exist, whether they recede of themselves or must be replaced, and whether their replacement is difficult or painful. It is important to ascertain the character of the protrusions, as smooth or nodular, hard or soft or covered with rugae and whether it is tender or sensitive to the touch, and if there are any ulcers present; also whether it occurs only during defecation or is continuously exposed, or can be produced at

will. Any evidence in the general economy of such other diseases as anemia, tuberculosis, or syphilis must be taken into consideration; also the condition of the kidneys and bladder, and whether the patient has had gonorrhea or any urethral stricture. If a female, and married, how many children or miscarriages, and was there any rupture of the perineum? Is there any uterine or ovarian pain; any vaginal discharge; prolapse of the uterus, or difficulty in urinating? If a virgin inquire as to the menstruation; whether regular, painful, scant or profuse.

The occupation or mode of life of the patient may not have been a factor in causing the disease, but it may be important in mapping out his future mode of living as to habits, environment and diet. Does he use enemas frequently, or like the proverbial Irishman, take his pipe and daily paper to the toilet with him? Does the rectum feel full after the evacuation or is there a desire for further action? Is there a history of sodomy or venereal disease or any family history of tuberculosis or cancer?

The examination of any case, medical or surgical, is incomplete unless we go into the family and personal history. It is often tedious, and much time is wasted on irrelevant matter, but frequently it emphasizes idiosyncrasies. For convenience, I have arranged all the important items of the examination in an abbreviated but comprehensive form in my record sheet. I want to emphasize the importance of keeping these records in even the simpler cases. One never knows what turn a case may take. An illness apparently simple in its incipency may be perplexing before the end.

It is convenient for those treating

rectal cases to have a toilet adjoining the examining room, that patients may empty their bowels just before examination. When this is not practicable and only a few rectal cases are seen, a commode which when not in use can be screened or easily pushed aside, may be substituted. If possible, a cathartic should be given the day before and the rectum washed out with an enema just prior to the examination. This procedure is absolutely necessary when the upper part of the rectum is to be examined, as otherwise, when the speculum is introduced, the field may be obstructed with feces and a thorough examination is impossible; also because the straining during defecation brings down hemorrhoids, polypi or prolapse and thus assists in the diagnosis. Even with these precautions, you occasionally find a case of impaction where the rectum is lined with inspissated feces. Occasionally I prefer to make an examination without this preparation, that I may find the rectum more in its customary condition and any pus, blood, mucus, or hardened feces may be found more readily. Small protrusions or prolapses often retract within the anus when the patient walks a little, hence, it is sometimes necessary to examine the patient, on the commode or just after arising, before he takes a step. All constricting bands, clothing, or corsets must be removed or loosened, for they have a tendency to force the bowels into the pelvis. The bladder must also be emptied. It is often necessary to administer an anesthetic to secure a thorough examination of all parts and to fully relax the sphincter.

Gentleness is important in making a rectal exploration, as much pain may be avoided and spasm of the sphincter prevented. Very much also depends upon the

skill of the examiner, because sometimes the ordeal may be very painful, and doubly so if carelessly performed. Few instruments are needed, and only such as every physician has in his case. In examining the upper portion of the rectum a speculum and good light are necessary. A speculum illuminated with a small electric lamp on a slender shank clamped into position on the ordinary speculum, is the most satisfactory but good direct or reflected light may be used.

In regard to the position of the patient, the exaggerated lithotomy, the Sims, and the knee-chest positions each have their special advantages in particular instances. The ordinary dorsal or lateroprone position is all that is needed for the lower rectum although many prefer the exaggerated lithotomy, the patient's hips being elevated by a cushion. The knee-chest is, however, the only position that permits an examination of the higher portions of the rectum or sigmoid. The Sims' position, with the thighs strongly flexed and the breast on the table, the left arm hanging over the edge, inverts the pelvis and allows the contents to fall upon the front wall of the abdomen; the lumen of the rectum tends to gap and the mucus membrane falls away from the end of the speculum.

A thorough examination comprises inspection, digital and instrumental examination. Inspection may reveal the conditions which produce various neurasthenic or anemic conditions. The shape of the anus is sometimes important, whether normal, protruded, or drawn in (funnel-shaped), and the amount of pigmentation about the parts. Evidences of abrasions, scratches, pediculi or worms may be seen on the skin about the anus, also signs of inflammation or scars. A prolapsed rectum may be the

cause of prolonged vomiting or pertussis. An ulcer, fissure or pruritus may excite rectal tenesmus and also produce a scybalous stool. Protruding tumors, condylomata, such as hemorrhoids, polypi or malignant growths may also be seen and their characteristics noted. Very often a distinct fullness or bulging of the anus is seen where internal hemorrhoids are present, even if they do not protrude. Where epithelioma exists at or outside of the anus, a small piece may be clipped off for microscopic examination without any discomfort to the patient, by using a little local anesthetic. After carefully inspecting the anus and perineum, the field may be widened by gently pulling the anus open, a hand being placed on each buttock, the finger tips pointing toward the anus. If the patient bears down at the same time, a considerable portion of the mucous membrane will be everted, the extent depending on the relaxation of the sphincters. In this way, the lower inch or more of the bowel may be inspected without the use of a speculum and a fissure, fistulous opening, gonorrhea in women, syphilitic erosions, eczematous excoriations or pin-worms may be brought into view. In many instances the internal opening of a fistula is situated immediately within the external sphincter, and, in such a case, it may be seen by this procedure. During this maneuver, any tender or indurated areas may be mapped out. Fistulous tracts are easily followed up without the use of the probe. In women who have relaxed sphincters, a portion of the interior of the rectum may be everted by introducing the index finger into the vagina and pressing the rectal walls out through the anus. The presence of a discharge issuing from the anus indicates disease within the rectum; while the

sunken ischiorectal fossae and retracted anus surrounded by a profuse growth of soft hair would immediately suggest malignant disease or tuberculosis within the rectum with general systemic involvement.

Digital Examination of the interior of the rectum follows inspection, and it is the most important of all methods. The practitioner who is familiar with the digital examination of these parts can diagnose better with his finger than by any other way. Fully 80 per cent. of all rectal cases may be diagnosed with the finger and the other 20 per cent. by the history of the case and a specular examination. Digital examination not only confirms the opinion regarding the local conditions found by inspection, but also determines other conditions to which the attention may have been directed. The finger should first be swept around outside of the anus to palpate any induration or tenderness, either superficial or deep, which might indicate abscess or fistula. For internal examination the finger-nail should be well trimmed and the finger anointed with olive oil, which is not so easily rubbed off as is soap or vaseline by the sphincter. Whatever lubricant is used must be kept in collapsible tubes, as this is the only method of having a clean, sterile lubricant at all times. The cost is little and the advantages great over the old-fashioned jar of vaseline into which fingers and instruments were repeatedly dipped, carrying infection from one patient to another. For esthetic reasons, the rubber tissue cot may be worn if desired, because it will not affect the sensibility of touch and may be washed and anointed. The finger is then gently insinuated through the anus with a rotary or boring motion, the patient being asked to bear down at the same time, and the rectum

systematically palpated as high as the finger will reach. The introduction will be rendered much easier if the normal direction of the rectum is remembered and the finger is first directed up and forward toward the neck of the bladder, until the sphincter is passed, and then backward toward the sacrum. The sphincter is very sensitive, and any undue haste or roughness may induce spasm of that muscle, which will make the examination very painful and unsatisfactory. The iliac fossae should be firmly explored to determine whether there is any tenderness or tumor. The finger should be introduced its full length, and, by passing the other fingers of the hand back into the intergluteal space instead of doubling them into the palm, an increased reach is obtained; also if the patient bears down or strains during the examination, one or two inches more of the rectum can be examined.

The condition of the sphincter should be noted; whether it is relaxed, suggesting a debilitated system, cancer, or large internal hemorrhoids, which latter weaken the muscle by frequently protruding; or contracted, signifying acute disease in the anal canal, anal fissure, or a nervous subject; or whether hypertrophied, denoting chronic disease; or finally is it atrophied? The spasmodic action should be overcome by slow, steady pressure, as the sphincter is always forcibly contracted on attempted examination. Frequently the internal opening of a fistula is found just within the sphincter, as a rough, indurated, and sensitive spot which may be elevated or depressed (ulcerated); or the path of the sinus is felt by its cordlike resistance. If the tumor is felt, its size, shape, location, movability, and resistance are to be ascertained and, if possible, a small piece re-

moved later through the speculum for microscopic examination. Fecal impaction of the rectum or colon has often been mistaken for cancer. Polypi, stricture, abscesses, gallstones and other foreign bodies are occasionally felt. The tumor of appendicitis is found in the right pelvis if the appendix is low, and rectal palpation should be practiced in every case of suspected appendicitis. Malignant disease of the rectum or pelvis, the tumor of intussusception or an infected lymph gland may also be felt. Induration or constriction of the walls and the condition of the other pelvic organs is to be determined. Palpation of the prostate may reveal enlargement, induration, tenderness or soft points. The uterus and appendages should always be examined. Vesical irritation is a frequent source of reflex disturbance, and the bladder always should be examined. A stone may be found to be the origin of the trouble, although no symptoms were manifested. A digital examination through the rectum often assists considerably in diagnosing diseases of the urethra, Cowper's glands, seminal vesicles, bladder, vagina and pelvic bones; also tumors and abscesses of the peritoneal cavity, dislocation of the femur, ischial hernia and aneurysms of the gluteal artery. Very little information is gained by digital examination regarding hemorrhoids, except in rare cases, where much hypertrophy has occurred in the mucous membrane. Otherwise, the hemorrhoid being covered with nearly normal mucous membrane, gives no differential tactile sensation. Thus you see, a digital examination through the rectum is imperative in any case indicating disease below the pelvic brim. On withdrawing the finger it may be covered or streaked with blood, pus or mucus, each with its own

significance. If a stricture is so small as not to admit the passage of the finger, no force should be used, as rupture of the bowel has followed such an attempt. The cervix, the fundus of the uterus, or the prostate may be mistaken for a tumor. In rare instances, it may be necessary to introduce the whole hand into the rectum, but as the walls are so crowded upon the fingers and the folds of mucous membrane fall in between the fingers, very little knowledge is obtained, and there is always the danger of rupturing the bowel. A laparotomy and intraabdominal palpation is preferable when the disease is high in the rectum or in the sigmoid. A digital examination carefully performed is not painful unless a fissure is present.

Instrumental Examination. Bougies— That part of the rectum beyond the reach of the finger may be examined by means of bougies or sounds, although their use is open to criticism and is often contraindicated. Only soft, flexible rubber instruments should be used (Wales bougies) and these must be handled with great caution. They should be hollow, to permit the injection of fluid through them into the part beyond, thus dilating the rectum in advance and effacing any folds that might obstruct their introduction.

Too great value must not be placed on bougies, as their field of usefulness is limited, and even in a healthy bowel the sensations of obstruction often are obtained and may be misleading. I have yet to see a student who did not find a stricture the first time he introduced a bougie, because the sound often impinges on the wall of the bowel between the folds of the gut, and a stricture is erroneously diagnosed; or it may strike the uterus or prostate, or the promontory of the sacrum. There is

always danger of a metal or hard rubber sound penetrating the bowel, especially in cancer or ulcerations. Sometimes the so-called third sphincter, which is only a semilunar, transverse fold of the anterior and right sides of the rectum about six to eight centimeters above the anus, may catch the bougie. Normally the bougie may be introduced with care to the middle of the sigmoid flexure. If the mesocolon of the sigmoid is very long, the bougie may be felt on the right side and lead the examiner to think it had perforated the bowel. *Probes*—The probe has no place in the diagnostics of rectal diseases and very little in the treatment, except in fistula. Even here its value is very limited. Irrigations and injections are sometimes used for diagnostic purposes, and are best accomplished in the knee-chest or dorsal position. *Specula*—The speculum corroborates the digital findings and aids in the diagnosis where the finger fails, but by no means supersedes the latter. It is indicated where obscure hemorrhage, pain or discharge is an important symptom. The internal openings of fistula may be seen, especially if the discharge escapes during instrumentation. Internal hemorrhoids usually drop into the instrument and are easily seen. The decision as to which is the best speculum depends upon which one you are more familiar with. Each instrument is constructed differently, but the more rectal examinations you make the less you will use the speculum. The smooth blade bivalve causes much less pain than the wire blades, but it obstructs the field of vision and exposes only a small area at one time, and the speculum must therefore be rotated.

The cylindrical speculum permits of the most thorough work. With the patient in

the knee-chest position and a speculum five inches long and one inch in diameter the whole length of the rectum may be examined. Such a speculum is provided with an obturator to facilitate its introduction, which should be accomplished without much pain. When the obturator is withdrawn, the air rushes in and dilates the bowel, and the whole rectal wall may be inspected by moving the introduced end about, at the same time gradually withdrawing the speculum. The mucous membrane directly in front of the speculum is flattened out and viewed easily by gently pushing the speculum up after the obturator has been removed. By putting the patient under the influence of a general anesthetic, many of the obstacles to the examination are removed and the field may be explored thoroughly; the sphincter completely relaxes, pain is obviated, and in such cases it is well to be prepared to do any necessary surgical treatment in order to avoid a second anesthetic. When the patient is anesthetized an ordinary flat retractor frequently makes a very satisfactory speculum. A cylindrical speculum ten to thirteen inches long may be introduced, and the sigmoid explored, but as the great majority of rectal troubles are near the anus, a short and wide speculum is preferable.

When a patient is in the knee-chest position, the chest should be well down on the table and all constrictions at the waist must be removed.

In many instances owing to local disease or reflex nervous excitement, we find the sphincter abnormally contracted making an examination very painful and often impossible without some previous preparation.

An old fashioned way of overcoming

these difficulties was to anesthetize the patient, and with the thumbs introduced through the anus and then drawn forcibly out to the ischial tuberosities, to tear and strain the sphincters until paralyzed. Such a procedure is unnecessary in nearly all cases, for purposes of examination certainly and I think even for treatment. Space forbids however my consideration of that subject now and will give me material for another communication in the future.

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MUSCLE ANOMALIES.¹

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In previous papers¹ the writer had occasion to report some muscle variations. Knowing these occurred more frequently than they are reported he decided to keep closer watch for such in the laboratory. The ordinary student passes variations by as of little moment unless his interest therein has been stimulated; as a result of the attention given to the subject a number of interesting and unique variations was found.

1. PECTORALIS MINOR MUSCLE.

The anomalies of this muscle are that of division into superior and inferior portions, or cephalad and caudad, respectively.

1. White male. This long slender muscle, representing the caudal division, arises from the costal end of the fifth rib and the fascia of the interspace, for about

¹The variations are arranged in order of trunk, upper and lower extremities and illustrated by drawings where suitable ones could be made.

2 cm.; it then passes obliquely upward and outward and is inserted into the coracoid process between the cephalad portion of this muscle and the coracobrachialis and biceps muscles. In addition the tendon is attached for about 4 cm. of its length to the aponeurotic fascia covering the coracobrachialis muscle. The length of this muscle is about 21 to 22 cm., width at origin, $1\frac{3}{4}$ cm. and thickness 2 mm. The muscle belly gradually tapers to a tendon that is 3 cm. long, 1 mm. thick and 3 mm. wide. The cephalad portion of this muscle appears normal as to origin, size and insertion.

2. Colored male. In this instance the caudal portion of this muscle arises from the fourth and fifth ribs about $1\frac{1}{2}$ cm. from their costal ends and also from the fascia of the interspace; it is thin and tapers rapidly, passing upward and outward to end in the axillary fascia internal to the coracoid process. The cephalad portion arises from the third and fourth ribs and the interspace and is attached to the coracoid process in the normal manner.

According to Le Double² this anomaly, in man, is a normal condition in apes.

2. CORACOHUMERALIS SUPERIOR MUSCLE.

White male. This anomaly occurred as a small muscle that arises from the coracoid process under cover of the coracobrachialis muscle proper, and from the internal and the under surface of this muscle as well. It passes downward and outward and is inserted into the inner lip of the bicipital groove under cover of the latissimus dorsi muscle, but it is in no way connected therewith. Its length is about 4 cm., width 9 to 18 mm. and thickness about 2 mm.

This variation is not so unusual except in its insertion. Wood describes the



FIG. 1. INFERIOR PECTORALIS MINOR MUSCLE.

coracohumeralis as consisting of three parts; 1, a short upper (cephalad) portion that passes over the capsular ligament and is inserted just below the lesser tuberosity of the humerus; 2, a middle portion, the part usually described as this muscle; 3, the lowest (caudal) portion that extends to, or near the inner condyle, or is inserted into the supracondylar ridge. All of these

thumb between the insertion of the abductor and flexor brevis pollicis muscles; from this organ the muscle passes carpad and is inserted into the skin of the thenar eminence. It lies in the interval between the above-mentioned muscles. Its length is 4.3 cm., width 3mm. and thickness 1 mm.

Le Double says that Lepine was the first to describe this muscle in 1864 while later Hyrtl took up the study of this muscle.

4. ADDUCTOR MINIMUS MUSCLE.

White male. This muscle arises from the body of the os pubis below the adductor longus muscle and from the descending ramus, under cover of the adductor brevis and from the under surface of the fascia of this muscle; its total origin measures about 2.5 cm. The muscle passes outward and backward, tapering to a width of 1½ cm. and a thickness of 3 mm.; it is inserted by a short tendon, 1cm. wide, immediately behind the pectineus muscle on a level with the lesser trochanter. Its inner half is covered by the adductor brevis muscle. Its nerve is a branch of the obturator nerve.

Henle³ gives this muscle a place among the other adductors in his description of this part of the thigh, but the origin and insertion of the muscle that he describes are not the same as in the above instance.

Poirier mentions an adductor minimus of Gunther and an adductor quartus of Diemerbrock.

5. TIBIO-ASTRAGULUS ANTICUS MUSCLE.

Colored male. This muscle arises by two heads; the external, and smaller, arises from the interosseous membrane close to the tibia; the internal head arises from the external surface of the shaft of the tibia to within about 2½ cm. of its lower extremity. Both heads are separated from

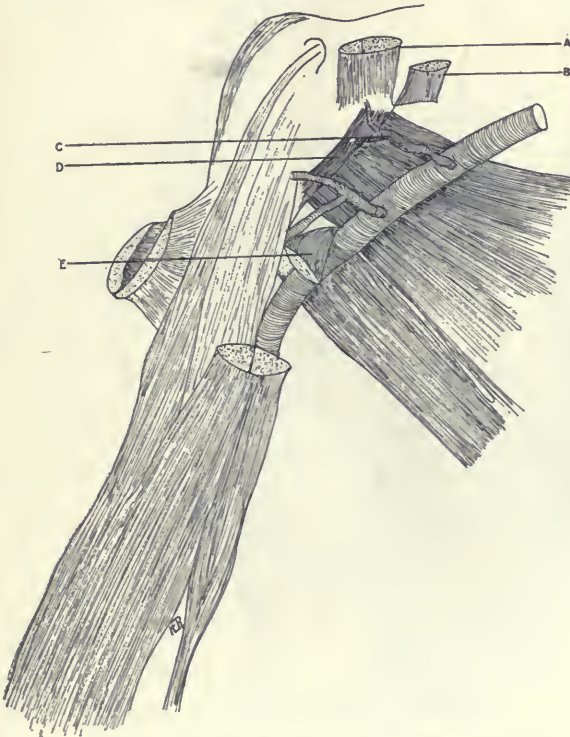


FIG. 2. CORACOHUMERALIS SUPERIOR MUSCLE.

a, Short head of Biceps and Coracohumeralis; b, Pectoralis Minor; c, Nutrient branch from Axillary Artery to Anomalous Muscle; d, Anomalous Muscle; e, reflected insertion of Latissimus Dorsi.

parts are found in varying degrees of development in the lower vertebrates as normal muscles, but 1 and 3 are the most marked peculiarities in man.

3. THENAR CUTANEOUS MUSCLE.

Colored male. This anomaly arises from the base of the first phalanx of the

each other and from the tibialis anticus muscle by the anterior tibial artery. From the lower part of the muscle a tendon passes carpal beneath the anterior annular

According to Le Double, Wood first mentioned such a muscle in 1864; this writer found it twice in 36 subjects while Le Double noted it twice in 42 subjects; in



FIG. 3. THENAR CUTANEOUS MUSCLE.

a, Flexor Brevis Pollicis; b, Thenar Cutaneous; c, Abductor Pollicis.

ligament and beneath the dorsalis pedis artery; the tendon then passes through the tarsal fascia to be inserted into the astragalus just above its articulation with the scaphoid bone. Its length is about $18\frac{1}{4}$ cm.

all the muscle had a fascial insertion and was called the tibiofascialis anticus. The muscle with its attachment to the astragalus has been seen by Macalister, Hyrtl and Gruber.

Henle mentions a slip of the tibialis

anticus that is inserted into the first metatarsal bone and Reeves mentions a tibio-fascialis anticus that is inserted into the annular ligament and tibial fascia.

6. GEMELLUS INFERIOR MUSCLE.

Colored female. This is an instance of duplication of this muscle. This muscle arises from the tuberosity of the ischium



FIG. 4. ADDUCTOR MINIMUS MUSCLE.

a, Pectineus; b, Adductor Longus; c, Adductor Brevis; d, Anomalous Muscle; e, Adductor Magnus; f, Obturator Externus; g, Adductor Magnus.

just below the regular muscle and is inserted into the capsular ligament of the hip-joint.

Le Double mentions that he has noted several instances of partial or complete duplication of the inferior gemellus muscle but not of the superior; Macalister, however, from his studies believes that duplication of the superior gemellus muscle is

more common than that of the inferior gemellus.

7. ACCESSORY PORTION OF THE OBTURATOR EXTERNUS MUSCLE.

White female. This muscle arises for about $2\frac{1}{2}$ cm. along the ascending ramus of the os pubis just internal to the obturator groove; it is joined at about its middle by a fasciculus that arises from the capsule of the hip-joint; a few of the middle fibers of the muscle join the obturator externus muscle while the external fibers blend with the obturator externus tendon; the posterior portion has a separate insertion into the posterior portion of the digital fossa. Near its origin this muscle is separated from the obturator externus muscle by the obturator fascia and vessels. It is supplied by the posterior division of the obturator nerve that lies just behind it.

Macalister mentions one instance in which the obturator externus muscle receives a fasciculus from the adductor brevis muscle.

8. ACCESSORY PORTION OF THE SOLEUS MUSCLE.

1. White male. This muscle arises from the posterior portion of the shaft of the tibia carpad to the usual ending of the soleus; it is inserted into the inner surface of the os calcis.

2. White male. In this instance the accessory portion arises from the lower muscular portion of the soleus just at the formation of the tendo-Achilles; it is inserted into the inner surface of the os calcis.

Henle mentions one instance of such an anomaly as reported by Turner.

Bankert, Pye-Smith and Phillips⁵ mention three instances of accessory portions of the soleus muscle. The first two arose from

the soleus; of these, one was inserted independently into the os calcis while the other joined the tendo-Achilles. The third was not attached to the soleus at all and

9. ACCESSORY PLANTARIS MUSCLE.

White female. This muscle arises as a thin fascial band from the fascia over the internal surface of the soleus muscle,

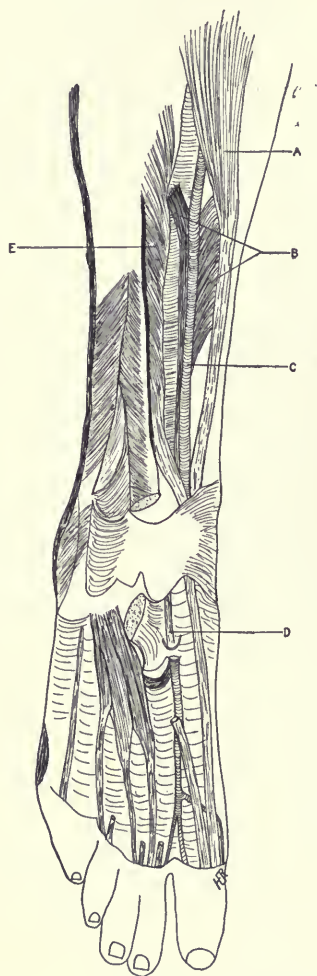


FIG. 5. TIBIO-ASTRAGALUS MUSCLE.

a, Tibialis Anticus; b, heads of Anomalous Muscle; c, Anterior Tibial Artery; d, Tendon of Anomalous Muscle; e, Extensor Longus Hallucis.

was inserted into the tendo-Achilles and os calcis.

The first of the cases reported by the writer is similar to that reported by Testut and Quain (Le Double).

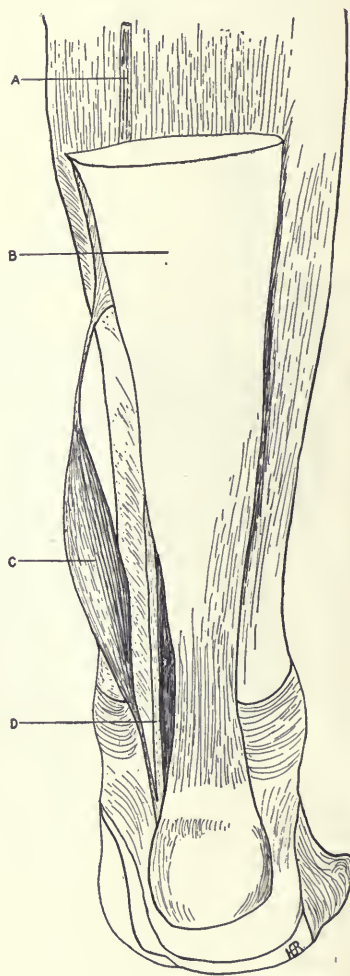


FIG. 6. ACCESSORY PLANTARIS MUSCLE.

a, Tendon of Plantaris; b, Soleus; c, Anomalous Muscle; d, Tendon of Plantaris.

about 7 to 8 cm. above the formation of the tendo-Achilles; it continues as a muscle belly 6 cm. long and $\frac{3}{4}$ cm. wide, ending in a delicate tendon that blends with that of the plantaris muscle just above its insertion.

Le Double mentions several instances in which the muscle arises from the fascia of the leg.

10. FIBULO-PLANTARIS MUSCLE.

White male. This muscle arises from the lower portion of the posterior surface of the fibula between the flexor longus

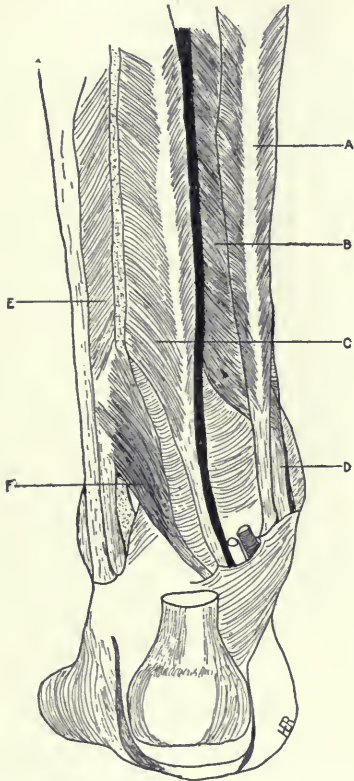


FIG. 7. FIBULO-PLANTARIS MUSCLE.

a, Flexor Longus Digitorum; b, Tibialis Posticus; c, Flexor Longus Hallucis; d, Tendon of Tibialis Posticus; e, Peroneus Brevis; f, Anomalous Muscle.

halucis and peroneus brevis muscles, and somewhat from the posterior peroneal septum; it forms a thick, narrow belly, 6 cm. long, that continues as a cord-like tendon which passes into the sole in a separate sheath behind the internal malleolus; in the sole it blends with the internal tendinous portion of the musculus ac-

cessorius, just before that muscle is inserted into the flexor longus digitorum muscle.

Le Double mentions a second long flexor of the great toe that passes into the plantar surface to be inserted into the flexor communis digitorum, or the musculus accessorius (Otto, Meckel, Hall Reinhardt) but nothing like the foregoing.

11. ACCESSORY FASCICULI OF THE FLEXOR BREVIS DIGITORUM PEDIS MUSCLE.

Colored male. These little muscles arise in common from the external surface of the tendon of the flexor longus digitorum muscle, as a single belly (18 cm. long) that separates into two bellies about $2\frac{1}{2}$ cm. long; these continue as tendons that split to allow the long flexor tendons to pass through. They apparently represent the inner portions of the flexor brevis digitorum muscle which in this instance are absent.

Reeves⁴ mentions that the outer tendon of the flexor brevis is not infrequently absent; two such instances were brought to the writer's attention. Frequently the tendon for the little toe comes from a belly that arises from the side of the long flexor tendon, or from the accessorius, or by two heads, one from the flexor longus tendon and the other from the inner tubercle of the os calcis.

The writer desires to thank Prof. Spitzka and the students for their assistance and and coöperation in collecting the above anomalies and Dr. Little for his drawing of the Thenar Cutaneous Muscle.

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TIMIDITY AND INSANITY.

BY

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(Concluded.)

CASE 10. Paranoid form of Dementia Praecox, man, aged 50, married. He answers "I just feel timid when I know that the person knows that I have been to the hospital for the insane. If I am talking to strangers, I am not timid." In considering the thoughts, emotions, and actions of the insane, it is well to remember that not only their mental processes, but their environment are abnormal. The home of the normal person is or ought to be, a source of pride and pleasure. But the home of the insane is stamped as a place of disgrace—at least, it has so long worn that seal, that the insane themselves usually look upon it as such. The disgrace which many feel is often the cause of attacks of depression. When the idea gains prevalence that an asylum for the insane is nothing more than a hospital for mental invalids, and that the patients are no more to be censured than persons who go to watering places for recuperation, many cases will show greater improvement.

CASE 11. Religious mania, woman, married, aged 49. This patient is a splendid worker and usually very good natured but subject to violent attacks of anger. She does no harm under the eyes of the nurses; but cannot be trusted at home. She has strong horse sense and a great loyalty to those she likes. Her answers show great comprehension although she has a very meagre education. When timid, she *usually feels nervous and excitable, and there is an entire blank of thought and action.* The occasions are *meeting with strangers or "to have one person tell me not to do anything and then another ask me to do what I was not to. The body, mind and nerves are on a strain for fear of being found out which causes a nervous feeling."* She was most timid, when the *consciences were guilty of a wrongful act and a fear of being found out.* At times she is timid in the *presence of strangers and feels as though she would like to converse and cannot do so with freedom.* When embarrassed, she acts *very backward and feels as*

though the hot blood rushed through the body and as though you would burn up. She sits straight and upright to avoid it. She has sometimes a feeling of discomfort in the presence of persons, *because she is not capable of entertaining them properly.* Her characteristic gestures due to nervousness are *shaking the head and clinching the fist in a threatening manner.*

CASE 12. Simple depression, woman, aged 30, single. When admitted she was greatly depressed and possessed hypochondriacal delusions regarding her stomach. She was suicidal and had hysterical crying spells. Her mother died when the patient was very young, and the father, a drunkard, failed to support her. She is very sensitive, conscientious, and fond of beautiful things. Her mind and health are much improved. She writes "When timid, I judge one does not talk so freely and appears more quiet when approaching some object or strangers. If I were scolded and thought I caused too much trouble and handed out too many letters, I suppose I feel more timid to approach them and as quickly as I can hand them the article and get out of their presence, the more comfortable I feel. When embarrassed I suppose that I have peculiar movements and actions of the body, am inclined to blush, find it hard to utter words, or hardly know what to do or say, and my face shows peculiar expression, hands tremble, and voice quivers." In answer to the question, What in your opinion are the causes of timidity? She says "Fear, modesty perhaps, or I guess if one is shut off socially or does not mingle much with people, one is more or less timid when they chance to meet people."

CASE 13. Paranoid form of dementia praecox, woman, aged 40, single. She has delusions of persecution with regard to a physician whose life she threatened. Except for her delusions she is a very shrewd and capable person. When timid she feels *weak and trembles though outwardly composed, and has a faint quivering sensation.* The occasions are *on meeting or coming into contact with very repulsive villainous people. When with the highly educated and persons who have traveled and seen a great deal of the world, some make her feel very timid. As she has always been deprived of traveling they make*

her feel as though she were lacking. Not caring what others think or say lessens the feeling. The cause she ascribes to heredity and fright in childhood. She does not impress one as being timid—quite reverse. Her greatest trouble seems to be in not caring what she thinks or says of others.

CASE 14. Mild form of the mixed state of manic depressive insanity, woman, aged 28, single. When admitted she was violent and destructive and had delusions of being drugged. At present, except for her notions that certain people hold peculiar influence over her, she seems normal, and is a very healthy and attractive looking person. Her answers show that her feelings of timidity are those of the average person who is anxious to please—a sort of timidity which follows close upon the heels of gentleness. She could easily be kept at home if she had the proper surroundings.

CASE 15. Acquired neurasthenia, woman, aged 65, single. This patient had been a school teacher for many years, and later a nurse. She has always been over worked. She said she *used to be timid but is not now. She always had a shrinking disposition and felt a sense of deficiency would set up a standard and because she could not reach it thought she had failed. She always associated with refined people and felt that she did not come up to their standard.* This patient was soon dismissed as greatly improved.

CASE 16. Melancholia, woman, aged 59, single. When admitted to the hospital she had hallucinations of hearing and delusions of crime for which she thought she was to be put to death. She was morose, nervous, and wakeful. After a residence of 12 years in the hospital, she is very quiet and useful. Her only troubles now are occasional sick headaches and pessimistic ideas with delusions at long intervals of being the victim of hypnotic influence. She has an air of great self possession, but is timid in so far as she relates—"It makes me feel timid when in company and I must use my handkerchief a great deal: for I have had catarrh and suffer much. If I were well I would not be so * * * *. Some people would not be timid, if a strong arm would uphold them; but they must do as other people make them, so that others can be great."

CASE 17. Morphinism, man, aged 34, married. He thinks the occasion of his timidity is *in meeting strangers who are better conversed and better learned and more popular than he. He feels as though he were out of place, because he cannot converse with these on various subjects.*

CASE 18. Double personality, man, aged 31, married. He has received no formal discharge from the hospital but is practically not now a patient. He is the case of alternating personality reported by Dr. E. E. Gaver in the *Journal of the American Medical Association* for July 4, 1908, and has been free from any sort of morbid attack for a year. He becomes embarrassed at times and forgets words, and always shows a desire to be agreeable.

CASE 19. Moral degeneracy, woman, aged 29, single. After a very radical operation and a good recovery from the operation with several months rest, this patient was discharged as greatly improved and perhaps permanently cured. These questions were answered shortly before her discharge. Her answers betray no intellectual or moral impairment. She says she is *timid in the presence of persons who she feels, think her inferior to themselves in any or all respects. She is embarrassed, nervous, and forgets what she wishes to say. Timidity causes her mental suffering to some extent. She blushes, stammers, forgets what she intended to say, and usually ends by crying. When in the presence of others in order to feel less timid, she keeps on her feet, but likes to have a table, chair back, or something in front of her to lean on. She has a feeling of discomfort in the presence of some persons, not because she feels herself lacking, but because she thinks they consider her so—as in the presence of the superintendent of the institution. She enumerates her characteristic gestures due to nervousness—"I keep my hands in constant motion, bite my lips, am apt to slip any rings I may be wearing on and off my fingers, or play with any chain I may have on."* In her case, she thinks, timidity is caused by the feeling that *people whom she considers her equals and in some cases her inferiors, really consider her as being far inferior to themselves.*

CASE 20. Criminal insanity, woman, age 37, married. This patient was twice committed for killing her children during insanity. The first time she killed one; the next time two. Her history shows these were attacks of collapse delirium. She is not insane now. She is a very steady and useful worker, has quiet pleasant manner, and appreciates the gravity of what she has done. Her tastes and mentality are far in advance of the society into which she has been thrown. She has a decidedly nervous temperament. She says that her feeling of timidity is a fear of saying or doing something that is not in correct taste or of making a mistake in speech or manner. She is timid when in the presence of strangers or those on whom she wishes to make a good impression. The feeling is one of embarrassment, nervousness, and forgetting what she wishes to say. She blushes, stammers and does not know what to do with her hands. When in the presence of others she folds her arms or places her hands behind her back and places her feet under the seat if possible. The knowledge of her awkwardness keeps her from taking an active part in many instances where she would otherwise wish to do so. Her characteristic gestures of nervousness are stroking her back hair or moving some article about in her hands. She is or was supposed she says, to be above the average in intellectual capacity but has always felt that she was given credit for being brighter than she really is. She thinks the cause of timidity is a feeling of inferiority in any respect; that large hands and feet, awkward movements, lack of self possession, self consciousness and supersensitiveness all add to the feeling.

CASE 21. Paranoid form of dementia praecox, woman, aged 27, married. When admitted she complained only of auditory hallucinations of persecution; otherwise, she appeared very bright and normal. Several months after answering these questions she grew decidedly more disturbed. She has a feeling of uncertainty with strangers and when she feels that she is being criticized for some supposed mistake in the eyes of some one person, she feels uncomfortable until she can make herself understood. Lack of confidence is the cause of timidity she thinks.

CASE 22. Morphinism, man, aged 41, single. This man committed himself voluntarily. Although he stated that he was rarely timid but felt so when his conscience dictated that he had not done right in regard to any matter, both his manners and answers show him to be of a retiring disposition. He said that he sometimes had a feeling of regret and uneasiness. He had been a physician at one of the State Hospitals. After leaving the Columbus State Hospital, he committed suicide.

None of the preceding twenty-two cases suffer from excessive timidity. The only one who appears chronically embarrassed is Case 4: but this appearance is due chiefly to mannerisms.

A consideration of some of the answers of those who were decidedly not timid may be illuminating.

CASE 23. Paranoid form of dementia praecox, woman, aged 52, divorced. This patient is an artist and has remarkable information on a great many subjects. She ascribes all her troubles to the faults of others, in answer to the question, What situations would people make you feel most timid (that is, as to whether when eating, or sitting directly opposite a person, etc)? She writes "I have never felt that the situation I took when eating made any difference—it is the ill manners of the rest at the table." One night when I offered to give her a hypodermic so that the "hypnotic communications" of which she was complaining would have no effect, she cried mightily in her wrath, "give medicine to me. If you wish to help me, you will have to give your hypodermics to every person in Clark and Franklin Counties."

CASE 24. Paranoia, man, aged 59, single. He has been a very successful liar and swindler, has traveled a great deal, read extensively and given lectures on his travels. He says "I am not very timid" and his career has borne this out. There is so much of interest in his paper, but I have with difficulty chosen short extracts:—

"If I had been timid I certainly could never have interviewed the Shah of Persia, who regards himself as the king of kings. I was practically a lad who had filed a caveat in the patent office in London for a wireless system of telegraphy similar to Marconi's, but fifteen years before Marconi's invention!! Had I taken to the highest

Alps a small coherer and one other electrical apparatus I might have beaten Marconi by fifteen years. I paid entire cost out of my own money and the experiments were made in the higher Alps near Zermatt. Had to arise at midnight and walk on the snow before the sun melted the snow. Knowing of the Shah's great wealth, I wanted him to take an interest in my patent or caveat."

Question: Do you like to be alone?

Answer: Yes, yes, there is great power in silence. The people in India claim that by not eating meat and living righteously and being *much alone* that telepathy, mind reading, etc., are possible. I do not say this personally; as some neurologists in the West might claim I belong to the "semi-insane" or "demi-fou" class, as they are called in France. Although one of the greatest neurologists in France will tell you that some of the semi-insane are more intellectual than some of the psycho-pathologists.

Question: If timid only upon certain occasions, what are those occasions?

Answer: I certainly could not have been very timid when as a mere lad with a few hundred dollars and a letter of credit without good guide books I started on a trip with Mark Twain for Asia, Africa, and so forth.

Question: What situations with people make you feel most timid?

Answer: I might say that at a swell dinner party among the elite the "Nouveaux riches," the "Moitrinaires" of England I might be slightly timid, as best society there eat with their fork in the left hand, whereas we use the fork with the right hand when passing to the mouth.

Question: Does the knowledge of your lack in one direction affect your actions in other directions? Give an illustration.

Answer: I would not hesitate to lecture before large audiences in Europe, England, or America, if my subject was Palestine, Egypt, or Electrical Engineering. I have lectured in extremely fashionable places on these subjects and my lecture made a large sum of money for orphans in England. I would not lecture on the New Theology, the Modernists. The last subject I do not understand.

Question: Do you ever act in a certain way merely because you think a person is expecting you to act that way?

Answer: I think if I did, the experts would say I have dementia praecox.

Question: Are you athletic?

Answer: No.

Question: Name the out door sports in which you take part.

Answer: Fox hunting in England. I look upon these base ball cranks here as having dementia praecox which covers a great deal of insanity.

Question: Does timidity in any respect seem to be under your control? Have you found any way of lessening it?

Answer: Would not reading or anything which takes your attention from yourself lessen it?

Question: What is your candid opinion about your intellect?

Answer: I think in some ways most of us are "inspired idiots." We are all lunatics on one point and the one who can analyze his or her delusions is a neurologist and a philosopher.

Question: Have you executive talent?

Answer: Ask the experts. If I said yes it would indicate great vanity which is almost as bad as insanity.

Question: Are you sensitive as to what other people think of you?

Answer: I think I am. All natural persons should be.

Question: Do you feel perfectly contented with your lot in life?

Answer: No, a thousand times no. How can a man who does not chew, play cards, enjoy bar room talk, who does not swear, who does not have "brain storms," and who does not knock his neighbor down, enjoy present lot in life? I was practically well contented with my life in England where I was sole editor and owner of two publications and my spare time I devoted to the study of electrical engineering, and was never so happy as when studying electricity and making electrical instruments. I held a good situation in one of the longest electrical railways in the world a short time before I was "detained" by an ego-maniac in this city who has "folies de grandeur," who never saw me but a few seconds in his life, who has unsatisfied judgment of a thousand dollars against him,

who has been sued by an Ohio lady for 17,000 dollars for some gold brick schemes in South Africa. [What this patient says about traveling with Mark Twain, editing two publications and studying electricity is correct; but his experiments of Zermatt and visit to the Shah have not been verified. The lectures of which he speaks were not successful.]

CASE 25. Paranoid form of dementia praecox, woman, aged 37, single. She has delusions of enemies using hypnotism, mind reading, and telepathy upon her, and coaxing away her lover by unfair means. She exhibits the paranoid conceit in her answers. She thinks that she is considered to have the *highest intellectual capacity* and she herself says that it is *in every way correct*; that persons strictly moral (like herself) are *never timid when called into argument, as a moral person is always expressive of strength*. In an explanatory note she writes "The fine personal bearing of people is due to secrecy of thought, seen only by God. Spiritualism, mind reading is a thing murderous to personality and distinguishment and should be stopped in this place as elsewhere. The medical profession should stop the system now in practice upon the public such as *Therapeutics or Suggestive Thought* meaning how you put it which is abusive to physical person and intellect, as suggestive thought daily applied retards progression for the scholar and student and does not permit such to apply themselves, as necessary. This is a scriptural saying, "I was not born of fear, but power and a sound mind."

CASE 26. Catatonic form of dementia praecox, man, aged 25, single. He says he is *never* timid and his actions confirm this statement, "I hardly ever get embarrassed," he says, "I act natural. I say again I never am timid, I am a boy that ain't afraid of nothin' at any time."

CASE 27. Hebephrenic form of dementia praecox, woman, aged 40, widow. She has rather a startled shrinking appearance but is very selfrighteous and apparently not conscious of her own fault. "I think I would be happier if I were not restricted by the timidity of others," she says. She strongly denies any feeling of timidity.

CASE 28. Hysterical insanity, woman, aged 47, married. In answer to the ques-

tion, do you ever act in a certain way merely because a person is expecting you to act that way, she says, "I try to act natural at all times."

This study is necessarily incomplete. It includes only those subjects at the Columbus State Hospital who are able to furnish their own testimony by written expression: and it does not include all of these. It does not include instances, where the shrinking attitude in a physical sense is very marked, as in the negativism of dementia praecox or the resistance of melancholiacs. In these cases, although the physical signs show a marked attempt to withdraw from the environment, the mental symptoms of timidity cannot always be discovered. It is highly probable that these physical reactions were first brought about by some form of fear and persisted after the psychic correlate had disappeared. The lack of confidence displayed by the neurasthenic, the worry of the melancholic, the anxious states of the epileptic and sufferer from mania, depressive insanity and the elements of timidity found in some of the phobiacs, all easily find a place in a consideration of timidity and insanity. It is evident that no attempt has been made to treat of these. There are a few conclusions, however, which may be derived from the cases reported, as well as from observations which I have made daily in regard to many others.

The appearance in insane persons of a real regard for the opinions of others and a recognition of their own faults is a good sign. It shows an awakening to the feelings of normal life and that personal effort is working against destructive inclinations. Those patients who show a desire to please others and who are conscious of a lack in themselves and are trying to improve are either recovering or passing through lucid intervals. Some are practically recovered from insanity, so long as they can remain in an environment where their daily life is regulated and free from

anxiety and the irregular strenuous demands of a difficult life outside.

The timidity displayed by the insane has not the same quality as that of the sane. It seems frail and hollow, owing to a weakness of inhibition. The crude desire for flight is often restrained only by former habits.

The fact that extreme self consciousness may be present without timidity or bashfulness is attested notably in cases of paranoia, paranoid dementia praecox, and hysterical insanity. In these cases also the factor of a desire for flight upon the approach of the strange or unaccustomed is lacking; the subjects wish to remain on the field and make an impression. But we do not find self consciousness present in the more advanced stages of mental disturbance. Utter indifference is the rule. The patient is oblivious to appearance. The most disgusting transgressions are performed with the greatest unconcern.

Among the insane timidity is a sign of a lesser degree of insanity. One must not, however, mistake mannerisms for indications of its presence, nor fears based upon delusion; for a person may have intense fear of special things without possessing a timid disposition.

The experience of timidity includes several factors—a desire for flight in the presence of a certain situation, a power to prevent this desire from being carried into action, a readiness to do the proper thing, and an anxious impending sense of possible failure. The first is by far the most important factor. The greater the desire for flight the greater the timidity. The sane person develops the power of inhibition in proportion to his need. His feelings may be intense but his actions do not overstep the border of sanity. In the insane we do not find these four facts often in combination; but when the combination is found all the factors are lessened in intensity. The cases where it occurs are not very far removed from the borders of sanity.

Columbus State Hospital.

THE DIAGNOSIS OF ADENOIDS IN CHILDREN AND ADULTS.

BY

HAROLD HAYS, A. M., M. D.,

New York City.

Since the interest aroused in our Boards of Health in regard to the improved physical condition of school children, it has become a matter of no little importance to the throat specialist to examine carefully the cases that are referred to him for operations on tonsils and adenoids. As a rule, in these inspections, every child who is a "mouth breather" has adenoids; every child who has hypertrophied tonsils has adenoids. Although such a combination of conditions is true in the majority of instances, still there are cases, and many of them, in which no such combination exists.

The diagnosis of adenoids, heretofore, has been made in one of three ways. First by symptoms such as continued nasal obstruction, constant "cords," cough, mouth-breathing, the characteristic adenoid facies, etc. Secondly by making an examination with the rhinoscopic mirror, which in children is a very difficult procedure and in adults, gives but a glimpse of the part examined and then only in the hands of the expert; and thirdly by digital examination which although in many instances absolutely confirmatory, is an extremely distressing and painful procedure. In children particularly this last method of examination is the rule.

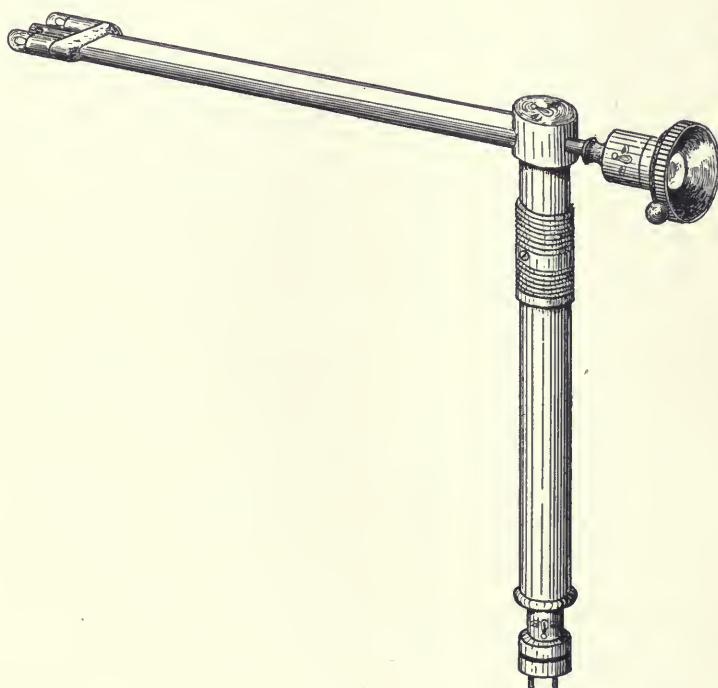
Within the past few months I have devised an instrument called a pharyngoscope, which facilitates the examination of the naso-pharynx and makes the diagnosis of adenoid hypertrophy absolutely positive, for the adenoid can be plainly seen and studied in situ. Thus far I have examined a number of children and adults without

difficulty, all of whom, however, were over six years of age. Therefore I cannot make any positive statement about infants and children under that age.

The pharyngoscope has been described in detail in the May issue of the *American Journal of Surgery* (a). I shall give a brief description of it here.

electrical connections for the lamps at the inner end. The vertical shaft includes the electrical connection to a Rheostat or dry-celled battery.

The instrument is inserted into the mouth like a tongue depressor and when the inner end is about one-sixteenth of an inch from the pharyngeal wall, the patient closes his



1. The Pharyngoscope.

The instrument is composed of a horizontal and vertical shaft joined at right angles near the outer end (see cut). The horizontal shaft is about eight inches long and is composed of three components—a central tube which contains the optical apparatus and two lateral tubes containing

mouth and is told to breathe quietly through the nose. Where nasal obstruction is absolute the mouth is kept open just far enough to permit of easy respiration. By gazing through the eye-piece of the instrument a most beautiful view of the entire nasopharynx is obtained. For further information regarding other uses of the instrument, the reader is referred to my former papers.

As the pharyngeal vault is so plainly

(a) See also New York Medical Journal, April 17th, 1909, and Transactions of Otological and Laryngological Sections, New York Academy of Medicine, April 9th and April 28th, 1909.

seen, the diagnosis of adenoids becomes a very simple matter. The growth, as a rule, hangs down as a dependable mass from the pharyngeal vault. Its limits vary. But in children and in many adults, the growth is limited anteriorly by the septum over which it hangs to a varying degree, sometimes giving complete occlusion to the nares, at other times occluding all but the inferior meatus. Posteriorly there are no definable limits but in no instance have I seen an adenoid extend lower posteriorly than anteriorly. In other words, the greatest hypertrophy is in front and the growth merges with the pharyngeal wall posteriorly. The external limits of the adenoids are proportionate to the width of the nasopharynx and almost always some of the tissue extends into the fossae of Rosenmüller and overhangs the Eustachian tubes.

The adenoid is enveloped in a capsule except where it is attached to the pharyngeal wall and is composed of three main lobes and numerous smaller lobules. With the pharyngoscope in a sufficiently wide nasopharynx, the exact contour of the growth can be made out and the glistening capsule, entering into the crypts, can be plainly seen. The secretion of mucous from this surface goes on constantly.

The soft consistency of the adenoid, its location and its glandular structure, predispose it to constant irritation. The result is that even where hypertrophy does not take place, congestion and infiltration of the glandular tissue will allow it to increase in size to such an extent that there are intermittent periods of complete and partial nasal obstruction. *A large adenoid growth need not obstruct all the time but is sure to obstruct some of the time.*

The fallacy of the ordinary examination for adenoids is illustrated by the following

case of a young girl of 17 who came to the New York Eye and Ear Infirmary suffering from a chronic purulent condition of both ears. Her tonsils had been removed but no adenoid tissue had been found although I have no doubt that a post-rhinoscopic examination had been made. The patient had no nasal obstruction. Examination with the pharyngoscope showed a large adenoid occupying the whole pharyngeal vault (Fig. 2). The drawing was made with the adenoid in situ. Fig. 3 is an exact reproduction of the adenoid after



2. Drawing of Adenoid as seen with the Pharyngoscope. Note how the growth extends into the fossae of Rosenmüller.

removal. Since I operated upon this case I have seen five other patients (all adults) with only partial nasal obstruction and middle ear conditions in which adenoid growths had been overlooked. All of these cases had been treated for tubal catarrh or tubal obstruction for some months, naturally with no relief.

It is a common custom, unfortunately, among a great many men, to make a diagnosis of adenoid hypertrophy or obstruction, merely because the patient has always been a mouth-breather, particularly when the patient has a narrow nasopharynx in which a diagnosis with the mirror is *nil*.

Many times, more especially in adults, digital examination but augments a wrong conclusion based on a preconceived opinion. For example, a short time ago, a young man of 19 was referred to me for the removal of his adenoids. I have no hesitation in saying that if I had not had the pharyngoscope, I should have said positively that he had adenoids. He had the blank staring expression so often seen, the nose was narrow and he breathed with the mouth open. Moreover he was in the habit of dribbling mucus on his pillow at night



3. The exact size of Adenoid after removal.

and suffered from so-called catarrh. Examination of the nasopharynx with the pharyngoscope showed a vault perfectly free from adenoid tissue. On further examination it was seen that he had a deformed dental arch with an extreme concavity of the hard palate. This, together with a narrow nose was sufficient to account for the mouth-breathing. Since I saw this patient, two other cases have come to my notice with somewhat similar history in which no adenoids were found.

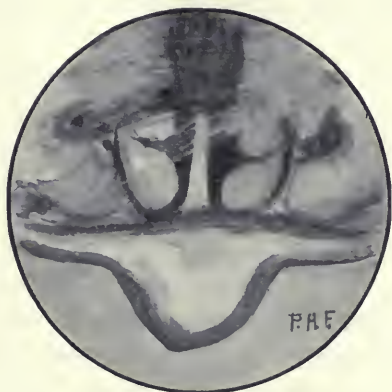
A small adenoid growth situated over the upper portion of the septum, about the size of a hazel nut, is very commonly overlooked. The growth is never large enough to cause obstruction to respiration and sel-

dom gives any symptoms aside from a constant secretion of mucus. The rhinoscopic mirror may at times reveal the presence of the growth but, as I have said, the diagnosis is in many instances not made and the patient is treated for various intranasal conditions which do not relieve the symptoms. Often, on inquiry, one is told that the adenoids were operated upon. Therefore this little mass of tissue is a remnant of an hypertrophied piece of adenoid tissue which had not been removed. I have seen this state of affairs very frequently, the picture with the pharyngoscope being so clear that there is no possibility of a mistaken diagnosis (Fig. 4). The simple procedure of removing this piece of tissue will frequently alleviate the symptoms without resorting to other operative measures.

Many patients coming to an ear clinic, such as the Ear Department of the New York Eye and Ear Infirmary where hundreds of ear cases are examined every week, suffering from chronic middle ear trouble such as chronic suppurative otitis media or chronic catarrhal otitis media. As a rule we have been satisfied to classify these diseases in two ways, first under the heading of osteomyelitic changes in the bones of the middle ear or ankylosis of the bones of the middle ear; and secondly on the basis of a tubal condition—either tubal stricture or tubal catarrh. Whichever classification is made, makes little difference to the patient, as the plan of treatment is essentially the same in all instances. The general rule is to look out for the tube, thus establishing drainage or ventilation and hope that the ear will look out for itself. Up to the present time pathological conditions of the Eustachian tubes have not been closely studied but that various path-

ological conditions exist, no one doubts for a moment. Among the commonest causes of tubal obstruction, is adenoid or lymphoid hypertrophy in the fossa of Rosenmüller, or on the Eustachian eminence or in the mouth of the tube. Even where the pharyngeal vault is perfectly clear, a small adenoid mass situated in close proximity to the tube, will cause pathological changes in the tube itself, resulting in the persistence of a middle ear suppuration or resulting in a middle ear catarrh with tinnitus and subsequent deafness. Once the offending mass is removed, the ear changes

call to the mind of the specialist, the frequency of adenoid obstruction or pathological changes that take place in the nose, throat and ear because of their presence. The method of examination which I have here presented, so far as I know, is entirely new and when it can be used (as it can be in the majority of instances) is the ideal method of examination. It is unnecessary for us to speculate on the presence of adenoid growths. We either see them or they are not there. Where before the diagnosis of adenoids was in many instances, problematical, it now becomes positive.



4. A small Adenoid situated over the upper portion of the septum, causing a constant secretion of mucus—so-called catarrh.

retrogress and a normal, or nearly normal condition, results. An example of such a change is illustrated in the case of a young woman of 28 who suffered from diminution of hearing and deafness in the left ear for one year. On examination with the pharyngoscope a small adenoid, springing from the left Eustachian eminence and overhanging the tube was found. Removal of this mass with the curette, resulted in the establishment of normal hearing and a subsidence of the tinnitus.

These few remarks on the diagnosis of adenoids will perhaps do no more than re-

CONCLUSIONS:

1. The usual methods of examination for adenoids are inadequate.
2. A visual examination of adenoids can be made with the pharyngoscope.
3. Adenoids do not necessarily cause complete nasal obstruction all the time.
4. "Mouth-breathers" do not always have adenoids.
5. A small adenoid situated over the upper portion of the septum, commonly gives symptoms of so-called catarrh.
6. An adenoid situated in proximity to a Eustachian tube, often overlooked, in many instances causes or aggravates a middle ear suppuration or catarrh.

No. 11 West 91st Street.

The administration of potassium iodide after operating for anal fistula in syphilitic and even in tuberculous subjects will be often found of benefit to stimulate healing.
—*Int. Jour. of Surgery.*

An excellent solution for a wet dressing is that of Ochsner consisting of 5 per cent. carbolic acid solution, one part; saturated solution of boric acid, six parts; alcohol (95 per cent.) one part.

**EYE CHANGES IN BRIGHT'S
DISEASE.¹**

BY

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The changes in the eye associated with Bright's disease naturally fall into two groups; those affecting the outer tissues, and which are visible to the naked eye; and those implicating the deeper structures of the eyeball which can be recognized only by the ophthalmoscopic picture.

**CHANGES DISCERNIBLE BY THE EYE OF THE
OBSERVER.**

Despite repeated and reiterated denial by oculists, there is a widespread, nay almost universal belief, that any swelling of the eyelids always means Bright's disease, whereas it is only in a very small minority of cases that this condition is an evidence of the renal incompetence.

Edema and swelling of the eyelids, upper or lower, or both, may be due to a great number of causes, chief among which are chronic arsenical and chronic malarial poisoning; they may likewise accompany heart affections and not infrequently may be associated with trichinosis and parasitic disease of the liver.

Swelling of the upper lid alone is, as a rule, due to local trouble, as injuries, notably stings of insects, bruises, blows, etc., while swelling of the lower lids results from constitutional incitement, which may arise from disease, drug addiction, or toxæmia. Puffiness of the lower lids, conspicuous in the morning, but absent, or

practically so, in the evening, displaying a marked contrast between the morning's stretched skin and the evening's wrinkled integument suggests an examination to demonstrate the presence or absence of interstitial nephritis. The presence of this varying swelling of the lower lids, together with a high tension pulse, hypertrophy of the left ventricle and accentuated aortic second sound, constitute a galaxy of symptoms indicative of interstitial nephritis even if urinalysis renders a negative verdict.

In the chronic parenchymatous phase of renal disease the puffy eyelids and the peculiar pallor of the face is so distinctive that diagnosis of the condition of the kidneys may be made almost without demonstration of the constant presence of a high percentage of albumin and an abundant supply of casts. Subcutaneous and subconjunctival hemorrhages, if recurrent, should arouse suspicion of a possible renal disease. These hemorrhages occur unexpectedly, without assignable cause, usually during sleep, are painless, and affect by preference the left eye. The suspicious feature in these occurrences is recurrence which may come at longer or shorter intervals, sometimes but a few days or a week intervening between the attacks. These hemorrhages may indeed be the initial outward manifestations of the systemic conditions and may anticipate by quite a long period the usual and classic symptoms of renal disease. They may likewise accompany other hemorrhages incident to nephritis, such as purpura, epistaxis, retinal hemorrhage, etc., and they are, without doubt, due to the general artero-sclerosis which is so generally associated with many forms of nephritis.

External ophthalmoplegia sometimes occurs early in the course of renal disease

¹ Read before the Northwestern Medical and Surgical Society, December 16th, 1908.

and is notable from the fact that recovery is rapid but relapses are common, and the muscles may be successively involved. There can be no question but that these paralyzes depend upon changes in the cerebral vessels similar to those in the retina. It is to be remembered that paralysis of the external ocular muscles is not infrequently one of the terminal symptoms of Bright's disease.

EYE CHANGES AFFECTING THE DEEPER STRUCTURES OF THE EYE BALL.

The intra-ocular changes accompanying or produced by nephritis are often the first evidences of renal diseases and lead to recognition of the malady before any symptoms of the systemic disease have been discovered.

The most important sign is albuminuric retinitis, the ophthalmoscopic picture of which is easily recognized. Albuminuric retinitis is *not* an early symptom; but occurring late in the progress of the disease is, nevertheless, often the first sign which makes diagnosis possible. It is the generally accepted opinion that the majority of these retinal appearances depend not upon disease of retina, but upon changes in the blood vessels. It has further been decided that a very large percentage of the cases of albuminuric retinitis occurs in syphilitics, which would again indicate the vascular origin of the disease.

The ophthalmoscopic signs are distinctive. The outline of the optic disk is hazy, sometimes indistinguishable, going over into the retina without any recognizable line of separation, and appears reddish, swollen and opaque. Surrounding the nerve head is generally found a belt marked by extravasation of blood, bright flaming red in color, with prominent rounded spots, or

broad, flat stripes which vary in size and number. White or yellowish spots also appear in this zone and small silvery points are scattered over the retina. The macula lutea is usually surrounded by a band studded with white spots or with the characteristic halo or star shaped figures of small bands or spots. The retina itself appears as an edematous light-gray membrane, with or without patches of exudation, and with darker stripes traversing its posterior part. The arteries are reduced in size, thin, bright colored and frequently defined by whitish stripes, the veins are broad, flattened, twisted and dark red in color, and may be covered partly or entirely by the exudate, while in other cases they may pass over the exudate.

Although various forms of retinitis have been classified by clinicians, they cannot often be differentiated, as they insensibly glide into one another, and as is sometimes the case, may be seen to merge together. It is generally accepted, however, that there is but one kind of nephritic retinitis, and that the different forms and changes observed are indicative only of various stages of edema, hemorrhage, exudation and degeneration. Albuminuric retinitis is usually bilateral, but may not begin in both eyes at the same time, nor develop equally. It may occur at any age, but comes on most frequently between the ages of fifty and sixty years. The youngest recorded case was in a child but five years old.

Chronic interstitial nephritis is the form of renal disease in which albuminuric retinitis is generally found, but it may complicate any form of nephritis, even the acute varieties, as in scarlet fever or in pregnancy. It is found, but only in rare instances, in carbuncle, diphtheria, ery-

sipelas, the intermittent fevers, measles, small pox, typhus, and in poisoning by alcohol, cantharides, croton oil or lead.

Albuminuric retinitis is found in from 9 to 11 percent of all cases of nephritis, and the *extent of the retinitis bears no relation to the severity of the renal involvement or to the amount of albumin contained in the urine.*

The degree of visual loss depends upon the location as well as upon the size of the hemorrhages and deposits, rather than upon the stage of the malady. It varies from slight impairment of sight, to complete blindness, but this latter is rare. Hemorrhage into the macula causes a marked diminution of sight, as does optic neuritis which may result in a consecutive atrophy; but as a rule *visual reduction is markedly disproportioned to the apparent gravity of the ophthalmoscopic picture.*

As regards life, the prognosis is always grave. It is a generally accepted opinion that many die in the first, and few live beyond the second year after the discovery of the retinal implication. A few cases have lived up to five years, and a case in the writer's practice survived for about 15 years, with an undoubted albuminuric retinitis complicating chronic interstitial nephritis. As the vast majority of cases of albuminuric retinitis are seen late in the course of the renal malady, after the lesions have existed for some time before the retinal complication was discovered by the oculist, it is reasonable to infer that the limit of two years from the first occurrence of retinal complication can hardly be received as accurate. It may be accepted as a fact that the social position of the patient has considerable influence on the life expectancy of the case, the very poor dying within the two-year limit, whereas those

under good hygienic surroundings, and able to take good care of themselves, live for a longer period.

Uremic amaurosis or amblyopia, although less common, is more conspicuous than the retinal complication. The loss of sight is sudden, complete and usually bilateral, reaction of the pupil to light is usually unimpaired. The pupil itself varies; sometimes it is dilated, at others it is contracted, and again it may remain unaffected. As a rule the ophthalmoscope reveals no change in the fundus, but sometimes a retinitis may be found, and in this event it antedates the amblyopia. Uremic amaurosis is more common in those phases of nephritis which are accompanied by uremic attacks, as, scarlet fever, pregnancy, acute exacerbations of the chronic forms, etc. Sight is usually restored suddenly and completely in from a few hours to three or four days. Permanent blindness does not occur except in those cases in which there has been a prior retinitis. Recurrence indicates an unfavorable termination.

36 W. 47th St.

Pains in the Knee in Hip-Joint Disease.—Dr. H. Heineke (*Müch Med. Wochens.*, March 30, 1909) reports two cases in which, after contusions of the knee, with effusion into the joint, violent pain persisted after return to a normal condition, and subsequently (one and one-half years after the injury in the first case and three years later in the second) severe disease of the hip-joint was found. The patients seemed to be unaware of the latter, and attributed their suffering to the knee, although this was found to be perfectly normal.—*Int. Jour. of Surgery.*

THE DOCTOR IN POLITICS.¹

BY

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(Sency) Hospital, Williamsburg and
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sician Brooklyn Hospital.

In presenting this paper for your consideration, I am merely expressing my personal opinion on a subject that is of keen interest to me. I am not, nor do I wish to appear, as one upon the inside looking out; though I may at times use the phrasings of a parson I have no desire to preach, nor do I speak as one having authority. I ask of those who do not find it wearisome to follow me, an open mind free from the amused skepticism that usually waits on such a theme.

The recognized *radical of party machinery* is the *caucus*, though this is usually preceded by one or more informal meetings of those in the election district who desire to control the caucus,—usually the regularly elected officers of the election district organization, the election district captain and his aids. The recognized *radical of political territory* is the election district which is made up (in this locality) of four or five contiguous city blocks. At the election district caucus the ticket for the primary is selected. The primary ticket contains the names of men nominated for delegates to the several local conventions (assembly district, aldermanic, judicial, congressional, etc.) where the candidates for the party nominations are selected, or where delegates to state and national conventions are chosen. This ticket is voted on at the primary. Also, at the primaries are

elected the members of the party county committee who to a large extent control the party machinery and party patronage in the county. A city's committee, an assembly district organization, and election district officers are also thus chosen. Any voter may identify himself with the party of his choice by filling out and depositing in an official box on registration day, an appropriate and authorized form. When a voter has so identified himself, the law requires that he be enrolled in the party of his choice, and that the proper election district officer send him notice of caucus and other meetings, so that he may attend and vote. The shepherd of the election district flock has always a welcome for the stranger wandering into the fold and always a place for him on some inconspicuous delegation where he may sit in more or less masterly inactivity or point with pride to his printed name upon the primary ballot. Promotion may be slow or rapid, but it is sure to the faithful.

The common objections to politics put forward by the physician, and by those in other vocations as well, are that to take an active part requires too much time, that their individual efforts would accomplish nothing, and that association with politicians or being identified with politics gives one a bad name.

The caucus takes usually less than half an hour, the primary, registration and the casting of the ballot on election day are equally short, if not shorter procedures. The various local conventions and meetings take one or two hours each. All occur, either in whole or in part, after working hours. A few of the local bodies have dues of a few dollars a year (e. g., the assembly district organization members are assessed two dollars before they are allowed to vote

¹Read before the 12th Annual Meeting of the American Medico-Pharmaceutical League, May 24th, 1909.

in meeting). Campaign contributions are optional. The average of time and of money spent by the rank and file of the organization is small. Those occupying party positions that require much time and money usually do so willingly and are amply recompensed. So much for the duties and obligations of party organization.

Now let us examine what assets the average doctor would bring his party; and let us also attempt to gauge what a widespread personal interest in party politics on the part of physicians would mean from the standpoint of what the medical profession as a whole could, under such circumstances, offer the commonwealth.

In the first place, to be material, the average doctor could bring to his party a personal influence, largely local, and considerably greater and more enduring than could any other man not purely a politician. Furthermore, the average doctor would bring his character—not perfect by any means, but of a nobler metal than that which goes with any other calling, save perhaps, the ministry. I am not one of those who really believe the physician is all he claims he is in his after-dinner speeches, still less, all that he is told he is in the post-prandial hysterics of others. The physician of to-day is a business man, not a philanthropist. He goes about doing good because he can make a living that way. But he focuses on his work a fine sense of personal responsibility. He has learned to be culprit, prosecutor and judge, and yet render exact justice. The inability of the ailing to protect themselves, has made him their protector, not their despoiler. The ethics of his profession, shorn of their tawdry drapings, have a beauty and purity worthy of the round-table. Life in such

surroundings does not make us all Sir Galahads, but it does leave its impress. There is no other class of men that has such practical and such essential ideals to bring to the body politic.

With a national organization of approximately 35,000 members, a state society of 9,000 members, and a county society of *almost* 2,000 it can readily be seen what a power for good the profession might be if it were composed of men actively interested in party organization, instead of being made up in large part of men who find it considerable of an effort to vote once every four years. What a factor for civic good would the medical fraternity be if its component parts were fighting in their respective parties for a government “of the people, by the people and for the people”. Such activities would have passed national and state pure food and drug laws years ago; would have given us adequate meat and milk inspection without the intervention of an Upton Sinclair or a Nathan Straus; and would have given the nation a department of public health and a medical officer with a place in the president’s cabinet.

That “Health is the supreme law of the land,” was never meant to apply to cattle only.

But perhaps I weary you with ideas that have a general application. Perhaps if I could show that from political activity might accrue personal benefits, I might hold your flagging attention. I think it is beyond dispute that on the state, county and municipal pay-roll, considering the amount and character of their services, doctors get the smallest compensation. Almost all medical positions have been put on the competitive, or civil service list at miserably low salaries and with onerous duties. The few positions that are not on the civil serv-

ice list such as jail physician(\$2,000) and medical examiner in the finance department (\$2,500) would give only moderate compensation for the service rendered, if the incumbents properly fulfilled the duties of the office. As it is they draw their salaries and that is about the extent of their official activities. It is exceptional for these officials to take a more active interest.

The unjust discriminations of the city and county salary lists make the thoughtful blush for the shame of the Great Metropolis. And none suffer more from this discrimination, nay, it would be safe to say, none suffer as much, as do the physicians in the city and county employ. The lawyers fare rather well, though not beyond their deserts as a rule, and this is rather to their credit, I think, for their profession is a very great power in politics. The technical skill of the engineer and the surveyor receives but a modest compensation; but the doctor fares the poorest of all the intelligent employees.

In the office of the commissioner of elections, where men work about three months in the year, clerks are doing comparing and recording that any grammar-school boy could do, at salaries ranging from \$1,000 to \$3,000. The cell keepers in the Raymond St. jail get \$1,200 a year, which is as much as the bacteriologists, bacteriological diagnosticians, pathologist of the Research Laboratory, the medical inspectors and many other medical officers of the department of health get, while some of the salaries in the latter department run considerably lower. In the health department itself, many of the clerks and other employees of little skill and no special aptitude get more than the physicians I have mentioned. The highest salaried doctor in the Brooklyn Division gets \$3,500, and has the

entire responsibility for that Division. The heads of Brooklyn Divisions of other municipal departments get roughly from \$5,000 to \$10,000. In the Kings County Hospital, the chief clerk gets as much as the Resident Physician. The County Clerk and the Register of Kings County, (elective) each get \$8,000 a year. The positions are a reward for political fealty, and with rare exceptions the men occupying them bring but little aptitude and less energy to the fulfillment of the obligations involved. These offices seldom interfere with the occupants' regular business. Such examples could be cited almost without end. He who runs may read.

What is the answer to these anomalies? The answer is that the doctor is not a factor in politics and therefore the politician reckons without him. And the politician makes the salary list. And the politician keeps all the big plums off the civil service list. Kow-tow to the politician! Would it not be fine if medical inspectors were to receive \$8,000 a year? Enough said. I have led you up to the political pork barrel and I see that the pieces with a large streak of fat please you best. There is a bit of the politician about all of us.

The fittest men succeed in politics. If you were to set on your right hand the rank and file of a political organization, and, on your left hand, the men they have chosen to lead them, you would say the men that lead are better than representative; they represent the best. They are superior, some in mentality, some in morality and some in both, to the men who have chosen them to lead. Politicians may abuse the power of political patronage, but where is the physician on the civil service eligible list who is not glad to reach out to avail himself of that abuse? There are a

few. Politicians may shirk the duties of their office, but how many smug citizens shirk their jury duty? Politicians may juggle funds, but how many of our "best citizens" have turned a moral summersault in high finance? Politicians have perjured themselves, but so have our medical experts. Truly this a representative government.

That "to the victor belongs the spoils" will always apply to the working basis of our political machinery. It is for the patriotic citizen to see that the victor is worthy of the spoils. There is every reason why partisans should be appointed to office, but we should use our efforts to see that our party (whichever it may be) is made up of capable partisans, and that only such are put in office. The door to partisan activity is open to you and to me and there is no valid argument against such activity.

When the Nation is threatened by a foreign foe, from every station of life, from every section, spring defenders of the flag. A single bugle call sets a thousand hearts a thumping, and the sight of a single company marching to the front will fill the recruiting offices. In the stress of such times men risk their health and lives. They leave their wives and little ones to face without a protector, the wolf at the door. And they go out and follow the flag. And in times of peace they leave the political machinery of the country they have saved to the demagogue and the trickster. Why? Because they are not true patriots that do thus. They have been carried away by a bit of color, by a bar of music and by the primeval instinct to war against their kind. There is more to patriotism, too, than rising while the band plays *The Star Spangled Banner*. The true patriot must bear the double test of willingness for

martial and for civic service. "They also serve who stand and wait." If you say it is presumptuous for the individual to think that he can sway the destiny of the nation in the councils of peace, I answer that it is equally presumptuous to think that *one* can sway the destinies of war. And one ought not to feel that he is fit only for the great things of life. The arguments against political activity hold as against military activity. If they fall in the one case, they fall in the other. If they are accepted in the civil and rejected in the military it must be because of some factor other than duty—such as the call of the bugle, the dress parade and hero-worship.

The incentive in home relations is personal responsibility, not a wish to improve the character of home relations in general. The factor in religious rectitude is the individual's personal obligation to his Maker, not a desire to fill a great part—an heroic part—in the history of the church. Most must be, and are, content to fill an humble and inconspicuous part in their church and are content to live, and to die, in religious obscurity. True it is folk of this timber that, when called upon, have made the martyrs of ecclesiastical history. And just so true is it that from the men who are daily tending the vines of civic righteousness, that are warding off the political foxes—"the little foxes that spoil the vine"—would spring the heroes should national peril unlock the door of opportunity. Who shall say that the leaven of wholesomeness and honesty that the sometimes overenthusiastic Hobson brings to the Democracy of the South, will not surpass in value his equally enthusiastic heroics of Havana Harbor? Who shall say the counsel and example of General Corbin in the republi-

can campaign of the West will not equal his services in camp and fight?

The thing that must eventually reclaim this country is not heroics, and not independent reform movements sham or real. It is rather that keen sense of personal responsibility applied to civic duties as it is applied to home ties and religious effort. God, and Home and Native land is a Trinity indissoluble, each for all and all for each.

One cannot enter the political arena as a Pharisee or a scoffer and be of use either to himself or to his party. One must be willing to grope in darkness till he finds the light. One must be content to follow until he can walk alone, and he must be able to walk alone before he can hope to lead. No one has ever jumped into a political leadership. One must see unfairness and truckling and shame, knowing that he is powerless to combat it, and yet not falter or be sick at heart. John Gray, in the "Choir Invisible" writing of himself, is made to say: "Do not imagine I fail to realize that I have added my full share to the general evil of the world; in part unconsciously, in part against my conscious will. It is the knowledge of this influence of imperfection forever flowing from myself to all others, that has taught me charity with all the wrongs that flow from others toward me. As I have clung to myself despite the evil, so I have clung to the world despite all the evil that is in the world. To lose faith in men, not in humanity; to see justice go down and not believe in the triumph of injustice; for every wrong that you weakly deal another or another deals you, to love more and more the fairness and beauty of what is right; and so to turn with ever increasing love from the imperfection that is in us all to the Perfection that is above us all—the Perfection that is God."

Such an ideal as this should be as a lamp to the patriot in politics and to the physician in all his walks of life.

To the man who with such a spirit takes up his civic duties comes a time when he is no longer as a puppet in a show, moved by the strings of political sophistries or a lying press. He stands self-emancipated, he is as one born again. Old words have a new sound, old themes a new significance. He rejects the corrupt in his party as the farmer does specked apples. He knows the men who do things for the Party and the men who do the Party for things, and he passes judgment on them in the caucus, in the primary and in the convention. When he gives an accounting of his stewardship, he will be a politician who helped his country, not a politician who helped himself. He is *the* politician of the future—the future that is almost present—the politician who will not have to die before he becomes a statesman. He is the Winston Churchill of New Hampshire, the Folk of Missouri, the Hughes of New York, the Hobson of Mississippi, the Roosevelt of the Nation.

But there are Roosevelts and Hobsons of every day politics whose names are never heard, whose faces are not familiar household gods; and it is in such obscurity that most of us work out our own and our country's salvation. Like the painter working on the cathedral vault, adding bit by bit each day, to a scheme he can never see completed; like the cloistered nuns, working year after year on vast tapestries, their work finished with their lives, while the tapestries are but begun; or "like the tiny coral insect, working deep under the dark waters" we must strive and struggle, each for our own little ends, and die not knowing of the vast fabric we are rearing up for

God. One note does not make a harmony, but it can make a discord; one soldier does not make the regiment, but he can spoil the review. Each note is necessary to the harmony, each soldier must feel his individual responsibility to fill his little time and place so that the regiment may pass inspection. It is beyond us, whether the music of the spheres swell in harmony; it is beyond us whether the world's army pass by in perfect alignment. We need not trouble our little minds with the immutable laws of the universe or with the destiny of the nation. But it is given to us, with our birthright of civil liberty, at once a duty and a glorious privilege, to do the right as it is in us to see the right—"for each in his separate star, to build the things as *he* sees them, for the God of things as *they are*."

411 Hancock St.

AN EASY AND EFFICIENT METHOD OF TREATING CARBUNCLES AND FURUNCLES.

BY

JAMES A. KEOWN, Ph. G., M. D.,
Lynn, Mass.

In the city of Lynn where leather is handled very extensively carbuncles are of rather common occurrence. Many of these show great virulence and have a tendency to spread and re-produce themselves. In many cases they show the typical condition of what is known as malignant pustule.

Various operations have been devised with more or less success, but owing to the tendency of the carbuncles to re-produce themselves and reinfect the area they have not been perfectly satisfactory.

The following treatment has met with unqualified satisfaction in our experience of some eight or ten years at the Emergency

Hospital in Lynn, Mass. For the smaller carbuncles a drop of liquefied carbolic acid about 95% strong is applied to the very top of the carbuncle in its earlier stages. After a few moments it is washed off with water or alcohol. For the larger carbuncles the carbolic acid is pricked into these carbuncles with a wooden toothpick. For the still larger ones, with considerable swelling, redness, and induration, a crucial incision is made in the carbuncle under cocaine and not extending more than a quarter to one-half of an inch in either direction. The carbolic acid is applied on a toothpick with a small amount of cotton and the whole inside of the carbuncle painted with the 95% carbolic acid. This is washed with a corrosive solution and a corrosive dressing applied. The patient is given corrosive tablets and directed to dress the whole surface of the neck two or three times a day, being very careful to destroy all the old dressing and to wash the hands before and after each application.

The patient is directed to return the next day but if any new carbuncles appear they are to be treated as above directed. In the course of a few days the carbuncle stops forming and the old ones rapidly improve and the patient is well in a short time.

Explicit directions are given to the patient to guard against reinoculation of various parts of the body by the fingers. The patient is given very nourishing diet, is directed to stay in the sunshine, avoid work and practice other hygienic methods. He is also directed to take, if in a very run down condition, the compound syrup of hypophosphites.

In no case have we met with any poisonous effect from the use of carbolic acid applied in this way. The bleeding of the

wound insures no undue absorption of the poison.

Recovery by this method is much more rapid than that by total excision or by caustic of any description, or even by the vaccination method.

The same treatment is applied to boils or furuncles with the same success.

CORRESPONDENCE.

A PROPOSED ASSOCIATION FOR CLINICAL RESEARCH.

Dear Doctor:—

A meeting of physicians and surgeons interested in Scientific Clinical Research is called for Wednesday, October 27, 1909, at John Ware Hall, Boston Medical Library, No. 8 Fenway, Boston, Massachusetts. The meeting will come to order at 10 a. m., and carry its sessions through Wednesday, and, if necessary, through Thursday and Friday.

The object of the meeting is, First, to establish an American Association of Clinical Research;

Secondly, to establish clinical research on an incontrovertible scientific basis in hospitals; and

Thirdly, to institute an American Journal of Clinical Research, in which the work of members of the American Association and of others doing clinical research work in a scientific manner shall be published.

You and your friends are herewith cordially invited to participate in this meeting and in the proposed movement of scientific clinical research.

This invitation is extended to all physicians and surgeons whose interest goes beyond the immediate case work of ordinary clinical societies; and it is hoped that the invitation will be accepted by all medical practitioners, irrespective of their present medical affiliations, who can appreciate the necessity for establishing on an incontrovertible scientific basis the certainties and limitations of the present practice of medicine and surgery before attempting to add to the already large and cumbersome field of medicine.

The American Association of Clinical Research is not intended to disturb the present medical affiliations of its members nor to interfere in the very least with the duties they owe and the privileges they enjoy by virtue of their affiliation with any existing national medical body.

The American Association of Clinical Research is to take cognizance of the fact that the clinic requires cold facts and conclusive methods, and upon these fundamental requirements, the structure and the work of the

American Association of Clinical Research are to be built.

It is of the utmost scientific importance to establish conclusively all that is at present true in medicine and surgery, and only upon such proved knowledge, to base any further advancement. The clinic deals with clinical entities and not like the laboratories, with parts as entities. Therefore, clinical research differs, and must differ, from experimental laboratory researches. Clinical research must consider clinical entities, and when considering parts, it must consider them only as parts and not as wholes. All that subserves the object of obtaining and investigating clinical facts and principles belongs to clinical research and the laboratory is a part of the means of clinical research, but only a part.

The crux of the matter appears to be that experimental laboratory proof is not sufficient clinical proof. In order to advance in an irresistible line, clinical research must be based on a conclusive form or method of clinical proof. In experimental proof, we dislocate a part from a whole and attempt to prove the whole from the part, as though a dislocated part could always prove the whole. Or, we attempt to prove facts in one species by facts in another species, as though the two species were identical. For instance, the experiments made on animals to elucidate certain elements of fever bring out a fact of almost insurmountable difference between man and the lower animals, the fact that man has associated with the nakedness of his body a highly perfected power for regulating his temperature, a highly developed vasomotor system and a vast array of sweat glands, a characteristic complex of things which apparently no other species of animal life presents. Experiments made on animals to prove febrile or other clinical phenomena in man, may be suggestive, but for obvious reasons cannot be conclusive. To prove observations in man, the observations must be made on man and not on animals. But observations on man even are not necessarily conclusive. Individual observations on man cannot be conclusive, because the same experience cannot be repeated, and when we prove by numbers, we compare similar but not identical experiences. Analogy is not conclusive proof. Identity alone is conclusive proof; but since, in medicine, identical experiences cannot be repeated, we must provide simultaneous identical experiences in order to have proof by identity. Clinical proof is conclusively established when all observations and experiments are made conjointly by at least two competent men, preferably of opposite ideas, at the same time. Conjoined critical observation and experiment, at the bedside and in the laboratory, as may be required, furnish simultaneous identical experiences, the proof proceeding on the principle that a whole can be proved only by the whole and not by dislocated parts.

These and other weighty questions await your assistance for a necessary solution. The benefit that will accrue, both to medicine in

particular and to the medical profession and humanity at large in general, from a satisfactory establishment of scientific clinical research, can be easily surmised. Come prepared, yourself and your friends, to give to this matter your mature convictions and your personal assistance. Only from a critical interchange of critically acquired opinions, can we hope for clearness and for the clarification of the medical atmosphere now charged with confusion and indifference.

Your communication, indicating your interest and your expectation of being present at the meeting in Boston on October 27, next, is eagerly awaited, and on receipt of the expression of your interest, further developments will be communicated to you personally in due time.

Please address your communications at the earliest possible date directly to James Krauss, M. D., 419 Boylston Street, Boston, Massachusetts.

Yours fraternally,

Signed: James Krauss, M. D.,

Chairman Committee American Association
Clinical Research.

419 Boylston Street, Boston, August 18, 1909.

ETIOLOGY AND DIAGNOSIS.

An Eye Sign of Aortic Insufficiency.¹

—Landolfi asserts that in pure aortic insufficiency, not complicated with other valvular lesions or aneurism there is sometimes a true hippus, that is, the iris contracts and dilates synchronously with the heart beat, contracting with the systole and dilating with the diastole. He found this sign marked in one of the 24 patients with aortic insufficiency examined, and was able to elicit it in three more after giving fifteen drops of digitalis a day for four days. It seems to be similar to Corrigan's pulse and the other signs of aortic insufficiency, but, unlike them, it seems to be limited exclusively to well-compensated, pure aortic insufficiency. It is merely an exaggeration of the physiologic cardiovascular hippus in the peripheral vessels and iris. The "circulatory hippus" was observed also in a dog with experimental aortic insufficiency, when heart stimulants were given.

Diagnosis of Intestinal Tuberculosis.²

—Walsh presents a study on one hundred

¹ M. Landolfi, M. D., *Semaine Medicale*, July 28, 1909.

² Jos. Walsh, M. D., *Philadelphia, New York Medical Jour.*, July 17, 1909.

cases which came to autopsy in the Phipps Institute; they were in no way selected. The average age was thirty-one. Seventy-six showed ulceration of either the small or large intestine or both, and twenty-four no ulceration. In conclusions he says that (1) the symptoms, diarrhea, abdominal pain, tenderness, and rigidity, mean very little or nothing in the diagnosis of intestinal tuberculosis; (2) the presence of an ischiorectal abscess in an advanced case adds to the probability of intestinal ulceration; (3) the diagnosis of intestinal tuberculosis cannot be made with the slightest degree of certainty from our present known symptoms, and since the condition carries with it such an unfavorable prognosis, in order to reassure the patient, the nurse, and the physician himself, the diagnosis should not be made so that the patient will have a better chance for hopeful treatment.

TREATMENT.

Treatment of Hemoptysis.¹ — Squire concludes as follows: If the smallest amount of blood staining is noticed in the sputum it should be looked on as a danger signal, and the patient ought at once to be put to bed. Calomel gr. ij, iij, or iv, should be given, depending on the patient, followed in the morning by 3j or more of magnesium sulphate; if necessary, this may be repeated in the day. The patient remains in bed for a couple of days, taking the magnesium sulphate each morning, and if no more staining appears he is allowed to get up, beginning with two or three hours the first day. If the staining continues while the above treatment is given the amount of milk may be reduced to one pint daily and the patient is, of course, kept in bed till the sputum is clear for at least three days. Acute hemoptysis is treated by propping up the patient in bed. Amyl nitrite, minims 10 to 15, is inhaled. In a slight hemorrhage this is usually sufficient. Smaller amounts than 10 minims do not usually have much effect. In larger hemorrhages, particularly when the nose gets blocked up with blood, it may be necessary to put from 30 to 60

¹ J. E. Squire, *Clinical Jour.*, London, June 16, 1909.

minims on a piece of lint and hold it over the patient's mouth. In some cases, this has been repeated, and the only complaint the patient made was that it produced a feeling of nausea. Turpentine (m. xxx to lx) may be used as an inhalation when amyl nitrite is not at hand, or spirits of turpentine (m. x to xxx) may be given internally and repeated. Morphin has been given with good results in slight cases; its action is probably due to the relief of anxiety from the sedative, with consequent quieter action of the heart. Adrenalin (m. v of a i to 1,000 solution) has been injected. It is said to be useful in cavity cases where it is likely that the hemorrhage is due to the erosion of a medium-sized vessel. On the other hand, it is said to be contraindicated when the hemorrhage is from a ruptured vessel, but is useful in congestive hemorrhage. It should be a general rule that when the hemorrhage is large and the cavity is known to be present, the patient should be made to lie on the side on which the cavity is located. Subsequent to acute hemorrhage the patient is kept in bed, if possible, propped up a little. Purgatives are given, beginning with calomel (gr. ij to iv), followed by magnesium sulphate, one, two or three times daily; the amount and time must depend on the patient's condition. Milk, one pint, must be given in twenty-four hours, and all other fluid cut off as much as possible, and the patient fed on solids. In some cases calcium lactate, gr. xv, has been given thrice daily for three days and then omitted for three days, and so on. Or calcium chlorid (gr. x to xlv) in water or milk, every four or six hours, may be given in a similar manner. These calcium salts increase the coagulability of the blood and thus tend to check hemorrhage. It is not wise to examine the chest too fully or too frequently during or immediately after an attack of hemoptysis.

Removal of the Ovaries.¹ —An editorial writer in the *Medical Standard* points out the analogy between the testicles and the ovaries and says that everyone recognizes that the testicle is the essential sexual organ in the man—that it not only consti-

tutes the indispensable element of reproduction, without which reproduction is impossible, but is the essential element of his sex, without which he is no longer a man, but a thing, nay, as a good friend of ours said in speaking of this matter, "an eunuch, which is worse than a thing"—and that no man could be found who would knowingly consent to part with his testicles except for the sheer preservation of his life, and many would just as soon lose their lives.

Precisely the same consideration holds good of the woman's ovaries. To quote Byron Robinson's famous aphorism, given out long ago to an all too heedless system of gynecology, "the ovary is the central essential sexual organ of the woman, and should be removed only for grave disease of the organ itself." It is her ovaries and nothing else, from a physiological standpoint, that make her a woman, and without them she is a sexless thing of exactly the same status as the man minus his testicles—an even worse condition in a woman, in just the proportion that the sex-life is a more vital and all-embracing phase of a woman than it is of a man. Said Byron: "Love is of man's life but a thing apart, 'Tis woman's whole existence."

It is unfortunately true that the ovaries of a woman are far more frequently the seat of grave organic disease than the testicles of a man—largely due, it may be remarked in passing, to the infectious and traumatic influences encountered from the male—and for that reason it may be conceded that removal of the ovaries is more often legitimately demanded than removal of the testicles. But this relatively does not alter the identity of the underlying principle. To quote Byron Robinson again, "the ovary in the woman and the testicle in the man are as constant as the brain," and the former is just as constant and essential as the latter. The removal of the ovaries from the woman renders her just as sexless, in every particular, as the removal of the testicles renders the man, and is therefore to be undertaken only under the same desperate conditions. Every gynecologist of reputation and experience will unhesitatingly testify to the disastrous mental and psychic results that have followed the removal of the ovaries, while the evidence of any beneficial effects of such removal is, at best, exceedingly dubious, not to say

¹ The Medical Standard, Chicago, Aug., 1909.

negative. Personally we shall never be convinced of the rationality of such a proceeding for the relief of neuroses and mental derangement until the same course is tried and demonstrated in the male. As Sam Weller's father was wont to say of the way in which certain parties mixed his brandy and water, "It's unekal."

Pruritus Ani.¹—Beach gives the following synopsis of his very interesting paper.

1. That pruritus ani occurs in mild and severe forms, mostly in middle life; the mild type with simple pruritus, the severe type with marked eczema and skin changes.

2. Certain aberrations in general metabolism or in adjacent structures are simply incidental and should be considered as complications.

3. Intrarectal growths, as hæmorrhoids, adenomata, etc., or the presence of parasites are contributory.

4. The distinct pathogenesis of pruritus ani consists of single or multiple burrowings from the anal pockets, emitting a serous or seropurulent substance, which sinus may be complete or blind and is always accompanied by proctitis, and frequently by cryptitis, and small ulcers at the anorectal line.

5. These sinuses when complete are sequelæ to an abscess history, but the origin of the blind recesses is in doubt, and yet it is not unlikely due to an infection by the colon bacillus.

6. The treatment is surgical for the purpose of obliterating the sinuses, correcting a rigid sphincter when necessary, and curing the proctitis and ulceration.

7. Gastrointestinal and general metabolic disturbances must be met by rational measures.

NEWS GLEANINGS.

The New York Postgraduate Hospital has purchased the three story and basement dwelling, at 308 East Twenty-first Street, on a lot adjoining the Fahnestock Training School for

Nurses. Several other properties abutting the hospital at the northeast corner of Second Avenue were acquired recently for the purpose of building an annex.

The Holmes Centenary.—The Medical Society of the County of New York has appointed a committee to arrange for the celebration of the one hundredth birthday of Oliver Wendell Holmes. Properly speaking the celebration should be held on August 29, but inasmuch as so many physicians are out of the city at this time, October 9 has been set instead. The speakers will be Dr. M. H. Richardson of the Harvard Medical School who will give some "Personal Reminiscences of Oliver Wendell Holmes;" Dr. E. O. Otis of Tufts Medical School who will recite "Dr. Holmes' Achievements as a Physician," and Dr. William Hanna Thompson of New York City who will choose some topic dealing with Holmes' versatility. Five members of the County Society have the arrangements in hand: Dr. Irving Wilson Voorhees, chairman; Dr. S. Adolphus Knopf; Dr. David Bovard, Jr.; Dr. H. Seymour Houghton, and Dr. John Leshure. Hon. Oliver Wendell Holmes, Judge of the U. S. Supreme Court, has been invited to be present.

New Building for the New York Polyclinic.—The trustees of the New York Polyclinic Hospital have purchased a plot of ten lots on the north side of Fiftieth Street and the south side of Fifty-first Street, between Eighth and Ninth Avenues, as a site for a new hospital building which will be one of the largest in the city. It will be twelve stories high and will cost about \$1,000,000. The new building will be used as the headquarters of the institution and the old building of East Thirty-fourth Street will be continued as an East Side branch.

Congress of Colored Physicians.—At the eleventh annual meeting of the National Medical Association, held in Boston, August 24-26, under the presidency of Dr. Peter A. Johnson, New York City, the oration on medicine was delivered by Dr. Joseph J. France, Portsmouth, Va., on "The Treatment of Lobar Pneumonia." The following officers were elected: President, Dr. Marcus F. Wheatland, Newport, R. I.; vice-president, W. F. Lofton, D. D. S., Washington, D. C.; secretary, Dr. John A. Kenney, Tuskegee, Ala.; treasurer, Dr. A. Wilberforce Williams, Chicago, and executive board, Drs. Nathan F. Mossell, Philadelphia; Robert F. Boyd, Nashville, Tenn.; George C. Hall, Chicago; Albert R. Collins, Washington, D. C.; Mahlon A. Van Horn, Newport, R. I.; Charles H. Shepherd, Durham, N. C.; Amanda V. Gray, Washington, D. C.; G. E. Cannon, Jersey City, N. J., and Willis W. Steers, Decatur, Ala. It was voted to hold the next meeting in Washington, D. C.

¹ Wm. M. Beach, M. D., Pittsburg, New York Medical Journal, Sept. 11, 1909.

American Medicine ⁴⁹¹

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PUBLISHED MONTHLY BY THE AMERICAN-MEDICAL PUBLISHING COMPANY.

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Complete Series, Vol. XV. No. 10.
New Series, Vol. IV, No. 10.

OCTOBER, 1909.

\$1.00 Yearly
In Advance.

The future of the American medical profession would give many of us a great deal more concern if we were not well aware of the sound foundation on which the modern practice of medicine is based. Prophecy as he may, the pessimist cannot shake our confident expectation that scientific medicine will ultimately triumph over all "pathies," cults and charlatanry. Logic, truth and science must sooner or later prevail.

But however certain we may feel that the time is not far distant when medical science will be universally accepted because of its manifest accuracy and efficiency, we must ruefully admit that the situation at present is very far from satisfactory. Two great evils stand foremost as the most serious of the several confronting the medical practitioners of this country. No medical man who is in touch with medical affairs as they are to-day can deny that the condition of the average general practitioner is very far from encouraging. We are a long ways from going to the "demnition bow-wows" as some of the "calamity howlers" are claiming. Nevertheless in many of our large cities there has been during the past two years a decline in general office and family practice of over fifty per cent! In even plainer language if it is possible, we mean that many excellent general practitioners of ten, twenty or even more years' experience are seeing to-day not over one-half as many patients as they

were two years ago! New York, Brooklyn and Philadelphia are prosperous cities but our information shows that in certain localities within their confines this decline is even greater. In discussing the matter with different physicians many and various are the causes blamed. One will point to sanitation and prophylaxis as actually reducing sickness and therefore numerically decreasing those who need medical care. Another lays the condition so far as it concerns the regular profession to the "call of the quack" especially the worship of the "false gods" of Christian Science, and such senseless cults by the laity. Still another will say that the trend of the profession towards organization—in the eyes of the laity a phase of trades-unionism—has made medicine a sordid business and by eliminating the element of mysticism has removed the one factor that held—some say fifty per cent of those who seek medical treatment. Still another will state that the enormous extension of surgery has truly frightened the people and made them exceedingly chary of consulting the modern progressive physician, who while he may not be an operator, is keen to recognize surgical needs and possibilities, and advise accordingly.

And so it goes. But in attributing unpleasant economic conditions to various causes, the two main factors which we started to mention are ignored. These in our humble opinion are the hospital-dis-

pensary-clinic-abuse, and immature, or better, "premature" specialism.

The monstrous evil of the abuse of medical charity has all but pauperized the medical profession. It has not only robbed medical men of thousands upon thousands of dollars rightfully earned, but it has cheapened and depreciated medical service. Every day in New York City it is safe to say that from three thousand to five thousand people who could and should pay a reasonable fee are treated free! And to make the matter worse night clinics are being established throughout the city to accommodate those who work during the day, and who for this reason are unable to take advantage of the free clinics conducted ostensibly for the poor and needy.

Now, it is not intended to reflect on any one or to cast the slightest aspersion on any man or group of men. Our comments are intended to be general and are offered with the single purpose of arousing our colleagues if possible, to a condition that is already one of the great scandals of our community and that if allowed to continue can only mean greater demoralization and degradation of our profession.

The blame lies chiefly with the medical profession. There is an overpowering desire to have as many clinical and hospital appointments as possible, *first*, for the glory and prestige, *second*, for the professional advertisement and therefore secondary pecuniary benefit, and *third*—and least of all—for the clinical or technical experience. These are all legitimate motives, but the economic result is no less disastrous. For every appointment or position there are a dozen or more applicants. If it is surgical there may be fifty! Oh,

these positions are eagerly sought for in this "neck of the woods," and the merry work goes on of reducing the average doctor's wage or gross income to less than a living amount. To-day in New York City it is probably under \$1,200, and the average for the whole country is under \$600! A few months ago we estimated it at \$1,500—but there are more night clinics now, and this means many more who are now getting free treatment. It must not be understood that we are opposed to the dispensation of charity by medical men. The writer has never shirked his professional obligation to give freely of his services to the worthy poor, and some of the finest experiences of his life are connected with this part of his professional work. But in New York City and many other large cities as well, the application of medical charity has assumed a character that makes it more sinister than noble. Last year on the initiative of Dr. M. O. Magid the Eastern Medical Society of the City of New York began an investigation of the subject and interested several other local organizations who united to create a joint committee. It is understood that this joint committee plans active work this year and we earnestly hope their efforts may be fruitful. Never was definite action more urgently needed.

Heroic measures are necessary and the first and all important requisite is the immediate organization of every medical institution and clinic under one head, preferably a state commission. If our public utilities are important enough to warrant a state commission, assuredly the sick people in our midst deserve no less thoughtful consideration. A State Medical Commission could proceed to sys-

tematize the many medical institutions on a plan not unlike that of the Army Medical Service or the Marine Hospital and Public Health Service. Appointments and promotions should be based on examinations and length of service. Every physician commissioned or engaged in the State Medical Service should be paid a definite salary. These salaries could be graded according to the character and duration of service, and when the physician's time, as would be the case usually, was only partly taken, and opportunity remained for private practice, the salary could be made much lower than the standards of remuneration in the National Service, where the whole time is required. Some will instantly raise the objection that such a scheme as above outlined would immediately throw the hospitals and clinics into politics, with the possible evils that are part and parcel of the political arena. The answer to this is, first, that politics and graft could hardly be more in evidence or more offensive and harmful under the plan suggested than actually obtains under the present chaotic system, and second, that while in the Army Medical Service and the Marine Hospital and Public Health Service there are and always will be a certain amount of internal politics, the remarkable efficiency of both of these departments testifies pretty conclusively to the absence of any pernicious activity in this direction—another triumph for effective organization and system.

There will be other good people who will instantly criticize the plan because it comprehends paying physicians for the services they render to the hospitals, clinics and dispensaries—charitable institutions. But is objection on such grounds sensible? Is there any right or justice in requiring

medical men to work for nothing? Every employee in every public institution, superintendent, nurses and kitchen assistants receive pay, with the single exception of the doctor. This is all wrong.

The burden of the sick poor should be assumed entirely by the community.

It is not fair to make an exception and require physicians to bear any greater proportion of the burden of a community than other citizens. Custom alone is responsible for singling out one class and expecting its members to give special service of the most skillful and responsible character without reasonable recompense. The old idea that the hospital physician or surgeon derived adequate compensation from the experience acquired in experimenting or operating on poor patients—as a result of which greater success, more prestige and larger fees could be obtained in private practice—has been exploded. Hospital and dispensary training is immensely valuable, but the greater skill and knowledge obtained is as essential for raising hospital efficiency as private efficiency. The main consideration in the whole proposition is the patient. Through misfortune and the force of circumstances he becomes sick, has no funds, and has no relatives or friends who can minister to his needs. He may be sorely afflicted, but under skillful treatment, good nursing, proper watching and feeding, nine times out of ten he can be restored more or less promptly to an earning status. In other words the majority of the sick poor can be changed from a state of dependence to a state of independence—made into working constructive members of society by hospital treatment. The gainer in the transaction is society and society therefore should assume the entire

responsibility. On no equitable basis can any man, just because he happens to be a physician, be expected to bear any extra share of the economic burden of the social dependent and yet to require a doctor to administer treatment and give his time, knowledge and skill without a reasonable remuneration, means just this and nothing else. From every angle it is unfair. The economic problems of physicians are no different from those of other men, with the exception that they are often larger and more complex. Doctors' families must be fed, clothed and properly educated as well as those of men of other pursuits. The wherewithal is derived solely from the practice of medicine—the treatment of the sick. To reduce the doctor's income by requiring him to treat the dependents of his community without pay, is no more just than it would be to require the clothier, grocer, butcher, baker, or any other purveyor of necessities to supply any and every poor person with what he needs to keep him warm or from starving. The necessity for medical treatment is rarely more urgent or essential than that for food and protection from the elements. No, there exist no sentimental, ethical, economic or other reasons why a medical man should give his services—except in emergency—without a fair and reasonable remuneration. Any contention to the contrary is a mistake, or sophistry, pure and simple.

In order, therefore, to save the most unselfish and self-sacrificing class of men on earth from still further sacrifices, every thoughtful man should unite to bring about correction of the hospital-dispensary-clinic-abuse. Organization on the basis previously outlined means first and foremost increasing the efficiency of our medical institutions, and second, conserving the

best resources of the medical profession. More than anything else, however, it means an equitable utilization of the talents and skill of the whole medical profession and ultimately when every competent physician is officially part of a public health system, it is reasonable to expect an era of freedom from disease such as the world has never seen.

The evil of immature or "premature" specialism can only be casually mentioned at this time. Few who have given the matter thought will deny that specialism in medicine has been carried too far. This is especially true in our largest American cities. The result has been to cause the layman to form a false opinion concerning medical practice and the general practitioner. The specialist has been looked upon as a vastly superior individual. Because of his assumption of special knowledge and special skill, much more in the direction of prompt and positive results has been expected from him. In many instances these expectations have been realized for many specialists are all that they are believed to be. But more often, from lack of preparation, experience and technical aptitude, the specialist fails and cannot make good his claims of superior ability and skill. The layman who sees the proposition in no other than its superficial aspects, reasons that the failure of any specialist—to him the highest medical court, the *dernier ressort*—is an evidence of the futility or inefficiency of *all* medicine. The layman may have no possible way of knowing that his particular specialist graduated less than two years ago; that he served a year as interne in a large hospital and then assisted Dr. Blank, the well known gynecologist six months in the

outdoor clinic of the "St. Vitus Hospital." To the layman he is a specialist, and that is all sufficient. That he never had a day's experience in the general practice of medicine; that his assistantship comprehended no other service than the passing of instruments, or the occasional holding of a speculum, and that his actual experience—for instance as gynecologist—is limited to a few cases of dysmenorrhea, a case of flooding at the menopause and some chronic patients that Dr. Blank passed on to him, all this the trusting layman does not know. Nor does he know, unless he is luckier or keener intellectually than the average layman that any general practitioner of five, ten or better still fifteen years' experience in coping with any or every ailment that came along, is infinitely better equipped to accomplish satisfactory results than the kind of specialist we have just been considering.

The combination, therefore of a "make-believe specialist" who in spite of the great things naturally expected, fails to "make good," and the enormous fees (proportionately) charged nevertheless for such service, has made many an enemy for the medical profession. Too bad, and too true, but honest specialism and efficient general medicine will continue to suffer as long as the evil of immature or premature specialism is not corrected by suitable legislation, or the evolution of some well devised plan of state medicine.

The value of ipecac in tropical dysentery is finally becoming acknowledged after a long period of skepticism. For a decade or so it was believed that nothing except local treatment by means of irrigations was of the slightest use, and it was held that any attempt to disinfect the colon

by way of the stomach was utter nonsense. Cases were even turned over to the surgeon to establish a channel for irrigation through the appendix, but physicians are now curing apparently hopeless cases by the persistent use of large doses of ipecac, preferably thirty drops of the tincture in capsules four times daily. Moreover, the after history of many of the operations has been anything but pleasant although some brilliant results were obtained. The surgeon's services are now declined since the methods of the British physicians in India have been found to be effective. It is such a remarkable instance of the specific virtue of drugs once used empirically, that the profession would do well to look into the case of many another drug which has fallen in the battle with the therapeutic nihilists. Some of the things may have unsuspected value.

Empiricism must not be wholly ignored for the real meaning of the word is "experience." Of course in far too many cases it is merely *post hoc* which has created the secondary meaning of quackery, but there are many notable cases in which it was really *propter hoc*. Indeed our three great specifics,—quinine in malaria, iron in anaemia and mercury in syphilis—are all empiric remedies. The ordinary laws of survival of the fittest explain the matter. For untold thousands of years, primitive man had been blindly trying everything for his ills, and those who recovered transmitted the means in folk-lore. If it was merely a *post hoc* case, subsequent failures eliminated the drug, but if a remedy persisted centuries or milleniums it must have had too many successes to be merely coincidences. Even as early as the pre-Homeric Greeks, these

happy experiences had accumulated into a very scientific system of medicine based wholly upon observed facts. The modern method of experimentation has caused us to ignore these experiences and it is now time to take them up again for we may have discarded things as valuable as ipecac which is now considered almost a specific for amœbæ. Happily the women, even of the peasantry, hold to their mother's teachings in spite of all we can do, and among the therapeutic trash thus handed down in folk-lore, the jewels are preserved, waiting for the modern therapist to discover and polish them.

The new birth of therapy is partly due to the realization that there are some jewels collected after these thousands of years of search. It behooves us to detect them, and much glory awaits the investigators. There is a growing suspicion that ancient literature is full of references which will serve as clues in building up the new therapy of experiences proved by experiment, and we should have accurate translations of the old works, even those of the ancient Egyptians. The laborer will receive no reward except the satisfaction of doing something, but perhaps our research laboratories and our libraries may develop some man with a genius for sifting out the jewels from the enormous mass of *post hoc* trash. Who knows then, but that the medical book-worm may now be furnishing material of enormous value to future scientific therapy? It has been folly to ignore all the experiences of mankind. Indeed, many a general practitioner has been amazed at the success of home remedies used for generations, and we find every wise family doctor using things not mentioned in the text books and colleges. Now let us have these experiences put to

use, and let us realize that empiricism is occasionally a *propter hoc*. Our disbelief as to ipecac has cost a deplorable number of lives.

The physical deterioration of the English race is creating no end of alarm, probably because it has just been discovered. The lower layers of every society are underfed and undeveloped and always have been. It is nature's way of killing off the inefficient. John Woolman in 1752 mentioned it in his journal now made famous by inclusion in Eliot's five foot book shelf. He was a well fed New Jersey Quaker tailor and was much horrified at "the poverty and injustice, filth and crime, great contrasts with wealth and luxury" of London's successful people. There is no doubt that conditions improve every generation and that the percentage of defectives is far less than a century and a half ago, but the sad part of the matter is the fact that there are more of them because the population is so great. On the other hand England has a constantly increasing percentage of sturdy sons to maintain her supremacy of the seas, and she need not worry over the lamentations of the eugenicists. It is the duty of the medical profession to keep defectives alive—a duty performed more and more efficiently with every new discovery in pathology and therapy. The baby which formerly died before its first birthday, is now saved for typhoid or tuberculosis after its twenty-first, and the man who then "petered out" at 45 now lives to die of cancer at 65. We merely shift the deaths from the infantile to later causes. We must die of something so let us hope that we will be so successful as doctors that in time all men will die of cancer after 70. That is, the course

of civilization is to increase the number of frail brothers able to dodge the causes of death until the machine runs down. Racial deterioration is then natural and a cause of congratulation in the sense that we are preserving for useful happy long lives a lot of folks who enjoy existence even if they cannot run a Marathon or whip Jeffries. Our present problem is to prevent the defects and though the task is impossible on account of the industrial inefficiency of the parents yet we are making some headway and there is no cause for pessimism or alarm.

The deplorable conditions of savages must be remembered when we are inclined to wail over our own woes. The old idea that primitive man, living next to nature, was healthy and strong is false. He is now known to be "a nest of parasites within and without" as so aptly stated by H. G. Wells, and the average length of life is less than 15 or even 12 years. When we see a picture of sturdy savage warriors we forget that they are a mere remnant of the thousands born as food for parasites. The Russian peasant woman saves only a few of her babies to be food for powder. How much better are the French or English who save the majority? Yet this awful savage mortality does develop an immunity by survival of the fittest variations. Almost all the natives of malarial countries harbor the plasmodium harmlessly, until they lose resistance from some other adversity, when out they go. Garrison and Leamas have shown (*Philippine Journal of Science*, June, 1909) that over three-fourths of the Philipinos harbor intestinal animal parasites, and practically all of the children are infected. No wonder the little tots die like the flies which

pester them. Civilization is merely a synonym for cleanliness. We thus save the weaklings who would otherwise perish of trivial infections. To live among the lower races, civilized man must live apart from them, in a clean world of his own. The old idea to live like the native is sheer suicide.

The prevalence of uncinariasis in America is a matter of national concern. When Stiles first mentioned the almost universality of this infection in the south he was looked upon as foolish, but later investigations have fully confirmed his findings. Southern recruits are found to harbor the parasite in something like 85 per cent. of cases and there is no reasonable doubt that the blood losses or toxæmia or both are partly responsible for the defective physique of southerners, who as a class furnish practically no athletes. Of course they are unfit for the climate and such types never have thrived so far south in Europe or India most of which resembles the southern half of this country, but there is no doubt that these people are now suffering from their notorious neglect of cleanliness. Their dreadful record of tuberculosis and typhoid, not to mention malaria, is bad enough but now comes hook worm. Luckily there is a specific for the infected, but is there a specific for the lack of intelligence which prevents their learning how to be as clean as civilized communities should be? Perhaps the pre-Columbian Indians had developed an immunity to hook worm but it is more than likely that it kept down their numbers for they were few compared to the northern tribes. Here then is a removable cause of part of our own racial deterioration. As a profession we can help

to educate the southern populations, so that they will give hearty support to the sanitarians who have so long been begging for means to end the deplorable mortality and defective development which has apparently removed them from national control. Presidents and leaders who once came from south of Mason's and Dixon's line, now nearly all come from the north.

Pellagra in the south is another cause for worry. So far the cases are not numerous enough to give rise to alarm, but they are sufficient to create the impression that something is fundamentally wrong. Perhaps mild unrecognized cases are more liable to infections and are being buried under wrong diagnoses. The cause, like that of beri-beri, has so far eluded search, but the two diseases though so wholly unlike are both imputed to fermented cereals, rice and corn respectively. Whether they are partly nutritional defects or wholly toxæmias or infections remains to be proved. Cases of pellagra have occurred when corn was not a part of the diet, and similarly beri-beri is said to be independent of rice, but the evidence so far is overwhelmingly the other way. Where these two articles are not in a people's dietary, the diseases have a mere academic importance. Nevertheless it is well to keep them in mind in the north, for it is not at all unlikely that similar conditions may be found which would throw a flood of light on the real cases. It is said that home grown southern corn ripens on the stalk and does not spoil but in the northern shorter season it is cut green and will not keep. Now that the south is dependent upon an increasing importation of foods for those devoted to cotton culture or other industries, the northern corn is

causing the cases which did not formerly appear when the south fed on its own foods. If this is so, then pellagra can be expected in the north also in time, and the disease will be of more than academic importance. Tropical investigators are inclining to the view that beri-beri is due to a defect of potassium in the diet, and it is well for our pellagra students to look into similar dietary defects here.

The diabolical persecution of Semmelweis for daring to discover that physicians themselves were infecting puerperal cases and were thus wholly responsible for the dreadful mortality of those times, has been mentioned in a brief sketch of his work. (Dr. E. B. Young, *Boston Med. and Surg. Journal*, July 1, 1909.) We hope that this incident and all similar ones will be published over and over again, not as a punishment for our past sins but to prevent future ones. It is only by a daily remembrance of the harm done by persecuting the discoverer, that we can prevent ourselves from persecuting present day benefactors. A spirit of humility should replace the belief in our own infallibility. Of course we resent the accusation that we are killing the sick instead of curing them and we much prefer to publish our successes. As a matter of fact we would progress towards perfection much more rapidly if the failures were given the greater attention with a view of discovering the reasons for the bad results. Perhaps the management of tuberculosis, for instance, would be vastly improved if we would only discuss the cases which have not had their lives prolonged. We might learn that prolongation of life is the only thing possible in many cases we now try to cure yet prolongation to the average ex-

peccation period for the given age, is the highest kind of success short of actual cure. Perhaps, and there's the rub, we may discover that some of our methods are injurious. So let us think of Semmelweis every day, and let his persecution be hung around our necks until it rots off, like the dead albatross hung on the breast of the Ancient Mariner, whose conduct injured his companions.

The popular dread of leprosy in America is one of those curious delusions which no amount of explanation seems able to dispel. Physicians have long been calling attention to the fact that it is the least contagious of all the infections, if it is transmissible at all from one person to another. In some countries where it is prevalent practically no restrictions are placed on lepers who not infrequently go about their usual business as though nothing were wrong. In this country too, they have been treated in hospitals with other patients and no case of transfer is known. In spite of all this we have gone back to the barbarous isolation of Biblical times, when all kinds of serious skin diseases, more or less contagious, were grouped together under one name now translated "leprosy"—at least that was the plan in an alleged case in Washington, D. C. some time ago. People will run panic stricken from one infected with this bacillus but will associate closely with those harboring the tubercle or typhoid bacillus, each of which is infinitely more transmissible and each of which causes so many deaths in comparison, that the leprosy bacillus sinks into utter insignificance. Unfortunately we do not yet know how the organism is acquired or whence, though there is no doubt that it has some relation to fish,

and until we do find out we cannot possibly prevent future cases with the precision now possible in malaria and yellow fever. The suggestion that it is a fish tuberculosis has so far been barren of results, though it may lead in time to the discovery of means of cultivating the organism. Clergymen could do a great deal toward dispelling the unwholesome dread by preaching from the pulpits that the diseases called leprosy in the Bible are not the non-transmissible ones now bearing the name. Physicians too, might impart the same information through the lay press or favor the reproduction of plain statements from technical journals.

The increasing number of divorces is a biological phenomenon which needs scientific explanation to determine whether it is the unmitigated evil it is usually assumed to be. The clergy have been discussing it long enough and now the medical profession might say a word for they know much more of the physical causes than anyone else and might suggest preventive measures. The clergy are apparently doing nothing but talk and in the meantime are marrying as many couples as they can without the slightest thought as to whether they are not increasing the very evil they rail against. No matter how unfit for matrimony a person may be, morally or mentally or physically, it is always possible to find a clergyman to perform the ceremony, and then declare the act to have divine sanction, indeed to be divine and indissoluble.

There was a time no doubt, when men were so nearly alike, that union with any of the women would be satisfactory, although it must be said that divorce was more or less common even then. With the

increasing variation among men and women in civilization, the chances of mis-mating are enormously increased and it is perfectly natural that an increasing percentage should find the bonds intolerable. The point to decide is whether such a course is justifiable in the interests of the individual and society. The religious element of the problem too often prevents a cold dispassionate study of it—which is much to be regretted.

The causes of divorce are often physical or mental qualities which should have prevented marriage, facts known to every physician but not generally talked about. The point then arises as to whether a physician's certificate should be obtained before a marriage license is issued. This suggestion is made every now and then, but for some reason it is never taken quite seriously. It seems to interfere with personal liberty too greatly and assumes that the physician is a judge of what would constitute fitness for married life. To be sure, it would keep a few of the diseased and defective from matrimony but experience shows that these may lead happy lives and have perfectly normal offspring. The return to the normal is the rule of nature, and such people may even have better offspring than the well endowed who do not live properly or rear their babies naturally. Consequently all suggestions as to physical examinations are generally dismissed as impractical and immodest. All propositions to make marriage more difficult or expensive or of prolonging the period of engagement are also resented for the tendency is in the opposite direction. Indeed there are no practicable schemes for preventing unsuitable matches and it must be sorrowfully

confessed that the increase of divorces is a natural phenomenon of our civilization and is inevitable. Where divorces are forbidden there are worse results still, and it does seem that the courts in granting decrees are merely obeying nature's demand. Opposition does not have any effect whatever, and until some sensible alternative is devised we might as well accept the situation with becoming resignation and humility. We are far from the perfect state in which every marriage is a biologic success, and the clergy might modify their attitude if they would realize this fact. Perhaps they might be induced to favor divorces, at least some of them would if the physician could show the necessity. The main and only point is whether mental abnormalities are sufficient justification for separations—and here there must be grave differences of opinion. At any rate, the matter is really more for the scientist than the moralist or theologian, so let us have more study of it by the medical profession. Uncompromising opposition may prove to be inimical to public welfare, and so might a too favorable attitude. It is a subject for investigation.

The Doctor of Politics. Last month we had the pleasure of printing a paper on this subject that in many respects was most noteworthy. In the first place it was beautifully written, with a diction and a rhetorical touch that is rarely observed in the literary work of medical men; secondly, the author, Dr. Thurston H. Dexter, thoroughly understood his subject and not only knew what he wanted to say but how to say it, entertainingly and convincingly; and thirdly, without preachment, Dr. Dexter's splendid paper

carried its message, a message of clean thinking, upright motives and individual responsibility.

We fail to see how any man can read "The Doctor in Politics" without receiving a new inspiration of the opportunities as well as the duties of citizenship. If we seem over enthusiastic concerning Dr. Dexter's masterly article, we can only plead our genuine admiration for an excellent piece of work. The concluding words of Dr. Dexter's paper deserve reading over and over again.

"But there are Roosevelts and Hobsons of every-day politics whose names are never heard, whose faces are not familiar household gods; and it is in such obscurity that most of us work out our own and our country's salvation. Like the painter working on the cathedral vault, adding bit by bit each day, to a scheme he can never see completed; like the cloistered nuns, working year after year on vast tapestries, their work finished with their lives, while the tapestries are but begun; or "like the tiny coral insect, working deep under the dark waters" we must strive and struggle, each for our own little ends, and die, not knowing of the vast fabric we are rearing up for God. One note does not make a harmony, but it can make a discord; one soldier does not make the regiment, but he can spoil the review. Each note is necessary to the harmony, each soldier must feel his individual responsibility to fill his little time and place so that the regiment may pass inspections. It is beyond us, whether the music of the spheres swell in harmony; it is beyond us whether the world's army pass by in perfect alignment. We need not trouble our little minds with the immutable laws of the universe or with the destiny of the nation. But it is given to us, with our birthright of civil liberty, at once a duty and a glorious privilege, to do the right as it is in us to see the right—"for each in his separate star, to build the things as *he* sees them, for the God of things as *they are*."

Every physician should interest himself in politics. We do not believe, as some would have us that every doctor is a superior being. But we do know that the average medical man is thoughtful, well balanced and intelligent. His view is usually clear and comprehensive and it is men of this calibre who are needed in the councils of every government. In European countries medical men are sought for positions of public trust and authority and the conspicuously successful manner in which these physicians perform their civic duties unquestionably adds to the dignity and prestige of the whole profession. In this country the opinion has seemed to prevail that a physician jeopardized his professional standing by mixing in politics or holding public office. Fortunately this idea is disappearing and coincidently many more medical men are being honored by their fellow citizens. The length and breadth of political interest and activity is not office holding, however, and medical men can exert a splendid influence in many ways without being elected to any office. Indeed, it is as a good citizen, attending the primaries, discussing important questions openly and voting at every election, that the doctor can become an active factor in his community. On every important topic he should post himself and especially strive to master the every-day details of local politics. Knowledge is power and the physician who knows the "ins and outs" of his local government soon becomes a live power. If he is a moral upright man he can accomplish an infinite amount of real good by demonstrating his good citizenship, and his sincere respect for the ideals of good government. This then should be the aspiration

of every physician, to be a good citizen, in touch with the needs of local government and everything that will make our civic life broader and more truly exemplary of that fundamental principle of the social organism, "the greatest good for the greatest number."

Christian Science as it is taught and practiced is a blot on modern civilization. It is high time that the medical profession took active steps to expose the fallacies of doctrines that were conceived in ignorance, and as given to the world, stand as little better than the ravings of a perverted mentality. That intelligent beings can accept and follow the teachings of the mind that evolved the idea of "malicious animal magnetism" is another strange illustration of the psychic depravity that the human race is subject to from time to time.

The opinion has been current among medical men that the Christian Science movement was only a fad that would spend itself in time if let alone. Many have felt that to attack the cult would simply give it the publicity that was desired, and by creating the possible idea of martyrdom would only add fuel to the flame. Many medical men have hesitated to openly express themselves for fear of exciting the criticism of selfish motives. As a consequence we have seen this terrible mental affliction sweep over communities and not a voice has been raised to save the people from their folly. Should this baneful thing be allowed to continue with its infinite possibilities for harm? Most assuredly not and we believe it only needs an intelligent campaign of education to show the thinking masses what a peril exists in the pernicious and fallacious teaching of Christian Science.

If the science of medicine and modern sanitation have the foundation that we con-

fidently believe, it only remains for us to point out the facts to save those who have sound minds and are capable of reasoning from cause to effect. Untruths and mistakes cannot flourish in the light of truth and incontrovertible facts.

Christian Science is a constant menace.

It denies every tenet on which modern sanitation and prophylaxis are based. Let a pestilence or epidemic come into our midst and the attitude of the Christian Scientists means a calamity such as the world has never seen. Some may think this exaggeration, but the secrecy concerning the afflicted that would obtain would place obstacles in the way of the health authorities that would seriously handicap the work of stamping out a virulent infection. Already many innocent lives have been sacrificed by the blind fanaticism of the Christian Scientists. It is a shame that helpless children have been the victims, but they have, and many more will go down to the grave before this monster is uprooted from our civilization. Already there is a healthy antagonism developing in the churches of the land and the intelligent clergymen and priests of the country are taking a definite stand against the evils that are so evident. Surely the medical profession in view of all that has been done to safeguard the people by medical registration, and the various sanitary laws, cannot stand by and see the work of years jeopardized by ignorance and fanaticism.

No, the time is ripe for a militant spirit in medical affairs, and if the splendid accomplishments of medicine, hygiene and sanitation cannot triumph by sheer truth over the ridiculous, ill-founded and perverted teachings of Christian Science, then we are working and striving in vain. But such is not the case and right is bound to prevail. Christian Science is bound to fall when the people are shown its fallacies.

ORIGINAL ARTICLES.

CANCER OF THE BREAST.

BY

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Probably nine hundred and ninety-five family doctors out of a thousand, if shown a case of cancer of the breast and asked what is your prognosis, would reply, "Almost surely fatal." And yet I feel sure that if removed early enough every case of cancer of the breast would recover, not only from the operation, but from the disease. Whence then this apparent divergence of opinion? Simply because they and I view a case of cancer from a different standpoint. The majority of practitioners do not view a small tumor of the breast as cancer at all during the whole of the period in which it is operable. It is only when the nipple is retracted, the gland fixed, and the vessels of the axilla have become surrounded with enlarged glands that they begin to talk about removal; and even then they are so undecided about it that the patient loses another six months, under the doctor's, or a quack's treatment. Once the woman has lost these precious six months during which her life could have been saved, it does not make much difference whom she goes to; she will die from cancer all the same. But if by some miracle, the nine hundred and ninety-five could be converted to the opinion of the other five doctors in a thousand and insist upon that little lump being taken out, a day or two at the latest after it was first noticed, there would never be another death from cancer of the breast.

But as long as the family doctor makes the excuse that he was not quite sure what the lump was and that he was waiting for all the symptoms of advanced cancer to develop before frightening the woman and her family, women will continue to die from cancer of the breast. I have heard this excuse so often from both doctors and laity, that they did not like to tell the woman that they suspected it was cancer, that I want to say a few words about it. I have no doubt that both doctors and friends mean kindly when they bring a patient to me during the early and operable stage and ask to speak to me privately in my office before the principal person in the tragedy comes in. What do they want to tell me? It is to ask me not to tell the patient that she has cancer; and even if she asks the straight question to kindly prevaricate or lie to her. This seems hardly credible but it is true. My answer has always been; "I must tell her the truth; for in what other way could I convince her that she must have the little tumor removed the very next day?" I have had so little trouble in getting patients to consent to immediate operation that I feel convinced that the family doctors do not really believe that *the tumor should come out long before any one can be sure that it is cancer*. But we cannot altogether blame the family doctor for this false conservatism which costs so many thousands of lives yearly, when the average great city physician will allow his patient, nay more, will allow his own wife to have a slowly growing nodule in her breast for six months while he is waiting to be sure. Over and over I have known such a one to express his astonishment at my proposition to regard all tumors of the breast as cancerous until they are out, and consequently

to get them out without delay. What would the public say? What would the profession say if two doctors were to throw dice to decide whether they would remove a certain tumor from a woman's breast and the stake for which they were gambling was a woman's life? Every one would say that such gambling was a monstrous crime. And yet that is just what a doctor does who knowingly allows the smallest tumor to slowly develop in a woman's breast until the glands in the axilla are affected. If taken out cancer or no cancer, with an inch of healthy tissue surrounding it while it is only the size of a walnut, you can guarantee that the woman will not die either from the operation or from subsequent cancer of that breast. If you cast the die against her by telling her to come back in six months you can be reasonably sure that she will die from the terrible operation which will then be necessary and absolutely sure that she will die from cancer of that region a year or two later. I have had a large experience with cancer of the breast and the one fact which this experience has burned into my brain is: *That all women are alive on whom I operated before I was sure that the little tumor was cancer; while all the women have died a painful death on whom I did the radical operation after I was sure that the mass was cancer.* The longest that any of the latter lived was two years although I removed from some of them the pectoralis major and minor and every vestige of the axillary glands. It may be objected that the mere fact that so many of the former women are still alive and in perfect health is proof that the little tumor that was removed was not cancer at all but a benign growth. All I can say is that in several of them the best pathologist

available reported after examining the specimens, that they were undoubted cancer; and second that every one admits at the present day, that every case of cancer even the largest and most fatal, was at one time only as big as the head of a pin. That would be the best time to take it out but alas in the breast at least we must wait until it is large enough to feel. But not a day longer, for every day's delay after that is another nail in the woman's coffin. I am proud to say that I have many friends in this city and surrounding district who think as I do on this important subject and who consider no sacrifice too great in order to save a woman from certain death from cancer of the breast. These busy men have sometimes devoted a whole day to getting the patient's and her husband's consent to have a consultation and to have the operation next day.

Let me also say a word in condemnation of the diabolical practice of cutting into the tumor in order to get a piece for examination; for if it should prove to be cancer the highly infectious cancer cells will be set free into the hitherto healthy tissues and her chances of permanent recovery lessened by so much.

Only after the operation is over and the woman's life has been saved should we hand the specimen to the pathologist. If he declares that it is cancer well and good. But supposing that he cannot find any proof that it is? In the latter case one might think that we would be overcome with regret and remorse? Not at all; for we know of cases of advanced cancer of the cervix from which the woman died fifteen months later, and yet from the pieces removed for microscopic examination during the three months while it was operable, the pathologist could not find the charac-

teristic cells. While on the other hand many cases have been reported where a small tumor was pronounced benign after microscopic examination of a small piece and yet was found to be malignant when the tumor was removed two years later. Of course I cannot understand anyone doing such a thing as to deliberately cut into such a growth for purposes of diagnosis when they might by two strokes of the knife remove all doubt and anxiety. One such small tumor was removed by the writer about ten years ago. This patient had been told it was a simple cyst and to leave it alone. If I had cut into it to obtain a piece for diagnostic purposes I would have spread the disease into healthy tissue. As it was I removed the tumor and a microscopic examination by an expert proved it to be malignant. There has been no recurrence now ten years since.

There is another aspect of the case on which I have written a great deal but which will have to be written about a great deal more before it is generally accepted, and that is the contagiousness of cancer. Twenty-five years ago when I was gathering clinical evidence to prove that consumption was entirely contagious and not at all hereditary, I came across ample proof to show that cancer was not at all hereditary, but that it was exceedingly contagious if transplanted into suitable soil. The most prolific source for the spread of cancer is cancer of the uterus, and I have no hesitation in saying that if we could entirely prevent cancer of the uterus, which we can, we could almost entirely put a stop to cancer everywhere else. I consider a woman with cancer of the cervix, especially if she does not know that it is contagious, to be far more dangerous to a community, than a patient with small

pox, which is known to be contagious and is isolated accordingly. A rich family for instance engages an experienced cook who in her younger days has had her cervix badly lacerated and it was never repaired. Six months before going to this family the cicatricial tissue in her cervix was infected with cancer from a cancerous friend. By this time she has an irritating discharge which has to be attended to frequently and from which her fingers are constantly infected. The master of the house has had dysentery in his younger days which has caused an ulcer and left cicatricial tissue. A few months after the advent of the cancerous cook he begins to have trouble with his rectum. In due time this is pronounced cancer and everybody wonders how he came to have it, because neither of his parents nor grandparents nor even his aunts ever had this disease. The doctors who thinks that cancer is hereditary will tell him that it has jumped three or four generations which is of course absurd but they never think of looking for the cause where it really belongs, namely in infected raw food. If every case of laceration of the cervix were repaired before the women reached thirty-five or forty years of age, cancer everywhere else would become one of the rarest of diseases. I have been thirty years in charge of a large clinic at the Montreal Dispensary, almost the oldest Charity in Montreal. Thirty years ago I used to get a case of cancer there almost every week; now I get about two or three a year, while even including all the cases sent to the Samaritan Hospital for women and to the gynecological department of the Western General Hospital by the many physicians who send their cases there, I hardly see six cases a year. Many of these doctors

tell me that several years have passed since they have seen a case that even looked like a possible one of cancer and they all say with me that cancer has practically disappeared from their practice. I have written to several members of the American Gynecological Society to know whether they were getting as many cases of cancer of the uterus as formerly. They all replied that it was becoming very rare and they all attributed this to the same cause as I do, that practically all the cases of lacerated cervix which would in time have become cases of cancer, have been repaired and therefore never become cancerous at all, so that I am not alone in believing that cancer is frightfully contagious. Even when a grandmother and mother and daughter all die from cancer, this may be a clear case of contagion for they all lived and died in the same house or else they nursed each other and became infected in turn.

So that when a woman comes to us with a small tumor of the breast and tells us that she nursed her father who died of cancer of the lip and her mother who died from cancer of the womb, and her husband who died from cancer of the rectum, we should be all the more prompt to remove that small tumor, not because she has inherited the dread disease, but because she has had so many hundreds of opportunities of being infected with the contagion.

Maurice Richardson of Boston one of the greatest surgeons of our day says in a recent article, "The great blot on the surgical treatment of this condition is unjustifiable delay." He has seen so many deaths directly attributable to waiting for an exact diagnosis that he says, "A better rule is to remove every tumor of what-

ever nature and at any age." When done early the whole of the disease can be removed by a trivial operation without sacrificing the breast; in some cases four-fifths of the breast can be left. When done a little later the whole of the breast must go; while after another month or two delay the terrible operation of cleaning out the axilla and removing the muscles of the chest and even the ribs may have to be done. In many cases this means death at the operation, and certain death for practically all from the continuation, not recurrence, of the disease. Any practitioner therefore who tells a woman with a small tumor of her breast to come back in six months is responsible for her death. How any practitioner can be found who is willing to take this responsibility upon his conscience it is difficult to understand. What do we think of the man who points a shot gun at his friend and when it goes off and shoots his head off makes the flimsy excuse, "I did not know it was loaded?" And yet just as flimsy is the excuse of the physician who says, "I did not know it was cancer," when a woman died who came to him six months before with a small tumor of the breast. It is a pleasure for me to say especially in the columns of AMERICAN MEDICINE that the profession of America seems to realize the responsibility to a much greater extent than those of any other country. In Europe, including Great Britain, deaths from cancer are increasing enormously, simply because no one there worries very much about an unrepaired lacerated cervix, or about cancer of the breast during the operable stage. Neither in the presence of the most overwhelming proof can you make them believe that cancer is contagious. They will resort to every de-

vice to show that it is hereditary and that therefore nothing can be done towards stamping it out.

Our only hope is that when the whole mass of the profession in the United States and Canada make up their minds that they can and will stamp it out the profession in Europe will follow our lead.

Let us then one and all agree to look upon every case of lacerated cervix as a cancer *in posse* and every case of tumor of the breast as a cancer *in esse*. We will not then have to worry about cancer in any other situation for there will be none.
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NUTRITION DURING CRITICAL PHYSIOLOGICAL PERIODS.¹

BY

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The purpose of this paper is to call attention to a subject of utmost importance; yet, withal one with a relatively scant literature and inadequate attention from both specialist and general practitioner.

It requires rather a painstaking examination of the literature of physiology, dietetics, gastro-enterology and obstetrics to acquire the necessary data for practical application in this subject which has demands upon all branches of medicine, particularly that of obstetrics, where no less than five out of a possible thirteen of the critical periods are associated.

For convenience at least we may make the following division of the physiological periods, viz., antenatal, (1st 9 months) infancy, (2nd 9 months) weaning (9 months to 2 years) pre-school (3 to 5

years) early school (6 to 9 years) pre-adolescent (10 to 13 years) adolescent (14 to 16 years) early adult, adult, pregnancy (labor and puerperium) lactation, menopause, and senility.

The limitation of this paper will permit of only brief reference to many of these periods; particular attention will be directed to nutrition during pregnancy.

We are now passing through a period of much discussion as to what should constitute the proteid content of a normal diet and also what should be the fat-proteid ratio in modified milk feeding of infancy.

The 118 grams per day of proteid as specified by Voit is most likely to represent the fixed average consumption because it is the usual quantity in a self-regulated dietary, but the low proteid content of 30 to 50 grams per day as advocated by Chittenden presents the very reasonable claim that this amount requires less excretory work and is productive of less intestinal toxemia. The abundant proof presented by Chittenden of this amount being consistent with good or even better health is now accepted as incontrovertible for a subject in normal health during a period of not more than one year. The effect of low protein diet in sickness for a period of more than one year has not been observed.

Schereschewsky¹ in a notable contribution upon "Infant Feeding" agrees with Czerny and Keller in pointing to the fact that cow's milk, rich in fat makes dense heavy curds and that the infant if allowed four hours between feedings can digest readily cow's milk if the fat percentage is low. "Undiluted cow's milk can be given from the beginning of the first month on, provided its content of fat does not ex-

¹Read before the First District Councillor Meeting.

ceed 3 to 3.5 per cent, nor the daily quantity greater than 150 c.c. per kilogram of body weight." This represents: cow's milk an amount equal to one-seventh of the body weight for infants up to 3 months of age.

The most critical physiological period is during pregnancy. Williams² says that frequently there are two periods in gestation. "The earlier is characterized by lassitude, mental depression and some loss of weight, while the latter is conspicuous for an excellent condition of body and mind."

Hagemann, Ver Eecke and Jageroos observed in pregnant dogs, rabbits and guinea pigs that katabolic processes prevailed in the first half of pregnancy and anabolic in the second half.

It is conceded by almost all observers that the pregnant state has an associated pathology and the liver is the organ subject to the greatest changes. The kidney and spleen apparently are not often involved apart from the liver.

The nutrition of this period must be considered so as to answer the demands of an enormous tissue growth and at the same time conserve the functions of severely burdened organs that have to eliminate increased wastes.

It is physiologically correct to exceed a normal diet when a renewal of tissue is demanded after wasting diseases and in the development of new tissue as in pregnancy, lactation and infancy.

Extra energy is required for the growth of the breasts, uterus, embryo itself, and the maintenance of the new organism.

Tangl³ has shown that for the development of one gram of chick 658 small calories were used. Thirty-two calories or 35 per cent of the chemical energy in the egg

is deposited in the body of the chick. Sixteen calories or 17 per cent of the original total is used as the energy of development.

The balance of 48 per cent of the original energy in the egg is largely found in the abdomen of the chick for its absorption during the early days of its life. The foregoing calculations give about one-sixth of the original hen's egg energy for the chick's development, two-sixths for resident body energy and three-sixths on deposit in the intestinal wall of the chick for early absorption.

Tangl observed that each egg loses in solids during incubation and the heat value per gram of this loss was over 9 calories. Since a gram of fat yields 9.3 calories it must follow that fat is the source of the energy for development.

Magnus Levy⁴ has observed that 80 c.c. additional oxygen per minute is required by a woman in her ninth month of pregnancy. Since there are only 20 c.c. of this oxygen used for increased heart and respiratory action, and the remaining 40 c.c. are used for general metabolism we can consider a decided increase in fat metabolism as entirely probable in a safe and normal pregnancy.

Von Noorden⁵ points to further evidence which we can apply in support of a high fat content in the dietary of pregnancy. For after his search for the origin of acetone bodies and B-oxybutyric acid he says we are forced to deny the possibility of acetone formation by simple oxidation or splitting of albumen, but we cannot deny that possibly the nitrogen-free-radical of the albumenoids at first splits off atom groups that contain little carbon and that oxybutyric acid is finally formed from these groups by synthesis. It is highly probable that this is the explanation for

the occurrence of the acidoses in pregnancy. A faulty food therapy of high proteid, high fat and low carbohydrate or a very high proteid and low total of fat and carbohydrate furnishes nitrogen free radicals that are not satisfied when the carbon equilibrium is low.

It seems highly probable to the writer that the fatty metamorphosis found in the toxemias of pregnancy are due to degeneration of native fats when the derived fats are deficient and the carbon equilibrium is too low for a period of extraordinary growth.

It is like the acidosis of starvation plus a high proteid intoxication.

Van Noorden states from personal experience that the acetonuria after narcosis disappears or is greatly reduced by carbohydrates. He regards the power of carbohydrates to prevent the appearance of acetone in the urine as "really quite extraordinary." It is a significant fact that the approximate 7 per cent of sugar in milk is remarkably constant under the widest variation of fat and proteid percentages, and Wilson⁶ has shown that normal growth in young pigs may be attained by the replacement of fat by milk sugar in isodynamic quantity. He suggests the importance of this in infant feeding.

The liver is the organ which presides over anabolism and pregnancy is the period of rapid organogenesis. The undifferentiated matrix is now evolving into different tissues and organs at the expense of hepatic potentialities and when the other entailments incident to this period are added it is no wonder that marked pathological changes are common.

In the diet therapy of pregnancy toxemias the difficult problem of inadequate digestion in nausea and hyperemesis is pre-

sented at one time and a voracious nitrogenous appetite at another. A scientific regulation of the food elements must be made with two chief considerations before us, viz., the caloric needs of the maternal body and the embryo and the balance of nutritive exchange that will best conserve the normal liver function.

It has been shown by Zacharjewski⁷ that during the 3 weeks preceding parturition that a diet containing 20.6 grams of nitrogen may have a nitrogen retention of 5.1 grams proving that this is a period of proteid tissue construction.

The dietary of Voit containing proteid 118, fat 56, and carbohydrate 500 and that of Chittenden which has between 30 and 50 grams of proteid per day may serve as texts for required modifications.

As in infant feeding it should be remembered that a high fat content is best borne with a low proteid and a high proteid with low fat. The carbohydrate should be constant or it can be raised for fat replacing purposes or for carbon supply in acidoses.

In conclusion I desire to emphasize that food therapy in the toxemias of pregnancy is a factor of utmost importance as a preventative as well as a remedial measure.

Second: that a high fat content is demanded in periods of enormous growth.

Third: that in certain specific periods of growth a high proteid percentage is safely metabolized.

Fourth: a constant carbohydrate content must be obtained regardless of the proteid and fat proportion.

Fifth: in acidosis a high or almost exclusive carbohydrate diet for a short time is very efficacious.

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²Obstetrics, page 175.
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⁴Quoted by Lusk, *Science of Nutrition*, page 194.

⁵Von Noorden, *Auto-Intoxication*, p. 31.

⁶*Science of Nutrition*: Lusk.

⁷Quoted by Lusk, *Science of Nutrition*, p. 195.

VALUE OF THE OBSTETRIC FORCEPS IN ABNORMAL LABOR.¹

BY

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The object of this paper is not to give you an exhaustive monograph on the subject, but the consensus of opinion of the best obstetricians together with the writer's experience, which has been such as to lead him to use instruments somewhat oftener perhaps than others more conservative, and with no ill effects.

Probably no instrument has been so undeservingly maligned as the obstetric forceps. When we consider its application is the commonest of all obstetric operations, we can readily see how it can be abused. Much of this no doubt is due to an ignorance of the technique of its application, and of the indications for its use. It seems too horrible almost to believe that through its instrumentality the foetal head has been rent from its body, that lacerations of the maternal passages, bladder and rectum and even fractures of the bony parts have taken place. This will explain the violent attacks upon its use, it would be more proper to say its mis-use, and the conservatism of the older accoucheurs.

Its proper application requires a knowledge of the normal mechanism of labor, the axis of the birth canal, its size and shape, and that of the foetal head; also

an understanding of the capabilities of the instrument itself. To quote from a paper by Dr. Simon Marx, of the New York Maternity Hospital, "The obstetric forceps is a powerful and dangerous instrument in the hands of the inexperienced, while in those who know its application and use, as applied to the well known principles of the mechanism of labor, it is the most conservative instrument placed in the hands of mankind, saving hours of untold misery and suffering by its timely, legitimate and skillful application."

History:—Some kind of an instrument fulfilling somewhat its purposes is mentioned by medical writers as far back as the tenth century, but anything approaching in shape the modern forceps was not known until the 17th century, when a Frenchman named Chamberlain, having a great reputation as an accoucheur, was its inventor. It remained a family secret for over fifty years, and was merely a rude pair of short tongs with the cephalic curve only.

To Smellie in England, and Levret in France, belong the credit of modifying this rude instrument in its most important particulars, by lengthening it, adding the pelvic curve, inventing a better lock, so that it is practically the forceps of today.

Varieties:—Every accoucheur of note has given his name to some modification of the forceps, so that time would almost fail to even mention them all, but in brief, the chief varieties in use are the long, and the axis traction forceps. There is a short forceps sometimes seen possessing only the head curve and merely intended to lift the foetal head when lying on the pelvic floor through the outlet, but it possesses no advantage over the long forceps which can serve the same purpose.

¹Read before the Kings County Medical Association, Brooklyn, N. Y.

We are all familiar with the shape of the obstetric forceps so that a detailed description is not necessary; it is sufficient to say that when the long instrument is mentioned in the paper, such a one of which the Elliott forceps is a type, is meant. The axis traction device of Professor Tarnier was a long advance toward the proper method of applying traction when the thigh is high in the pelvic canal. Its essential difference from the long forceps is in having supplementary handles applied to the blades, so that traction can be made in the line of the blades and not in that of the handle.

There is no doubt that it is a labor saving device, and permits us to use force in the proper direction, with a minimum of effort. It has been my fortune to use this instrument many times with safety to mother and child.

The ideal instrument no matter what the type, should be constructed entirely of metal, so that it can readily be made aseptic; its surface should be smooth or nearly so, and should not be cumbered with any complicated or delicate mechanism.

Purpose of the Forceps:—The forceps has three main functions, first as a tractor, secondly as a compressor and thirdly under certain conditions as a lever, but it is primarily and essentially to be used as a tractor.

It is self evident that when traction is made, compression necessarily goes with it, the amount depending on amount of force employed. It is very rarely that a safe use can be made of its leverage action, it has been used to rotate head forward in occipito posterior positions, but nature in many cases rectifies these faulty positions, and the others may be safely delivered by

its tractor function, if interference is required.

Indications for Use:—Generally speaking we may divide these into two great classes, which will admit of further division. First, a deficiency in the expulsion of the mother, and secondly, a necessity for speedy delivery when any cause exists imperiling the life of mother or child.

A more comprehensive classification is that of Landis:

I. Delay in first stage of labor may occur from placenta praevia, rigidity of os uteri, absence of a natural dilating agent.

II. Delay in second stage from uterine inertia, small size vagina, rigidity of maternal tissues, atresia vagina, large size of foetal head, want of flexion, pelvic deformity.

III. Accidents in labor, when rapid delivery is indicated, as in impending rupture of the uterus, convulsions, prolapsed funis, placental hemorrhage, maternal death.

IV. When foetal life is threatened, the rate and intensity of the child's heart being the index by which the danger may be recognized; if the heart sinks from normal to 100 or less, and persists so, or rises above 160.

V. Abnormal positions and presentations as in persistent occipito posterior and mento posterior positions, on the after coming head in version and in some cases on the impacted breach.

Conditions Necessary for Use:—I. The cervix should be fully dilated. This is insisted upon by most accoucheurs, but in my own experience I have found that the dilatability of the os is of more importance than its actual size. With only a moderate dilatation of a soft elastic cervix so that the forceps can be introduced, traction on the head engages it in the os which rapidly enlarges.

2. The membranes should be ruptured and retracted beyond the head, because if

included, a premature detachment of placenta might take place.

3. The birth canal must be free of all marked mechanical obstructions, the minor degrees of pelvic contraction not being a contra-indication.

4. There must not be too great a disproportion between the foetal head and the maternal passages.

5. The head should be enlarged. There is an exception to this rule, in cases of marginal placenta praevia; the object being to use the foetal head as a tampon to prevent hemorrhage.

Preparation of Patient:—Complete anaesthesia is desirable, perhaps I may say essential, but in this connection I have often applied the forceps, especially when head was low in the pelvis, without the aid of this useful adjunct.

Many women, especially in the lower classes, while consenting to an instrumental delivery, have an unreasoning dread of an anesthetic and forbid its use. I have found, however, compensation for its loss in having the mother conscious, as her voluntary efforts at expulsion were much increased, and I felt assured I should have abundant warning if too much traction was made or the wrong direction used. Perhaps it would be a good plan to defer the use of the chloroform until after we find by tentative traction we have properly applied the forceps.

The bladder should be emptied and rectum unloaded by an enema. The vagina and external genitals should be cleansed by soap and water, followed by an antiseptic. The patient should be placed across the bed in lithotomy position, hips extending well over the side. The forceps should be well scrubbed and then rendered aseptic by boiling. Regarding the disin-

fection of the operator's hand: various methods have been tried to render the hands sterile to culture media. Ahlfield after making 1,000 experiments on the hands of 215 persons, discovered the following to be the best.

First, dry cleansing and trimming of the nails, then three minutes in soap and water, without a brush, three minutes in alcohol, applied by pieces of flannel; this he found much preferable to using a brush, lastly five minutes in sterile water. In 52 experiments, 98.1% remained sterile. In 38 instances where the hands had been soaked in putrefying discharges from disintegrating tumors, they were rendered sterile in 37 cases or 97.4%.

This method was suggested to Ahlfield by the experiments of Reinecke, who claimed that alcohol had a germicidal effect of its own.

The method followed by the Sloane Maternity is as follows: Clean nails, scrub hands and forearms in green soap and water, for five minutes; then immerse in 95% alcohol one minute, afterward in a bichloride solution, strength not mentioned, for two minutes. Finally immerse in Lysol solution 1% for two minutes. After this nothing non-sterile to be touched, unless the whole process is to be repeated, before an examination is made.

Abrasions of fingers must be covered by a finger cot, previously boiled. 'Dirty' cases are examined and delivered by sterile rubber gloves.

Application:—Although the presenting part may be arrested in any portion of the parturient canal, the forceps application may be divided into the high operation, when head is at brim of pelvis, and the low when at the pelvic outlet. Many writers make a third classification, calling it the

medium operation, when the head has entered the birth canal, and is arrested high up, but the application of the instruments being in all essential particulars same as in high operation, it need not be considered.

The range of the forceps in the high operation is limited. Here version is the elective operation, when the head is mobile and the membranes unruptured. But if the liquor amnii has drained away and the head has become wedged in the brim the forceps are indicated, especially if digital examination shows no great disproportion between maternal passages and child's head.

It is in this class of cases that the axis traction forceps are invaluable, although the ordinary long forceps may be used if the axis of the superior strait is borne in mind.

In the lower operation there is no doubt as to their advisability.

Before any application is made, the position of the head must be accurately determined, and for this purpose the whole hand should be introduced. When the blades are introduced we should endeavor to grasp the foetal head by its bi-parietal diameter. If applied properly they should lock easily, if this cannot be done they should be withdrawn and again introduced. Care should be taken not to include any portion of cervix. As a rule the os being well dilated and retracted, this is not apt to occur.

Possible Dangers of Use:—Maternal injuries may follow, such as laceration of the cervix, vagina and perineum, separation and even fracture of the pelvic bones, sepsis, shock and post partum hemorrhage from too rapid emptying of the uterus, vaginal and vulvar thrombosis, with subsequent septic cellulitis and peritonitis.

The foetal dangers are fatal compression of the head and vital centres, cerebral and meningeal hemorrhage and paralysis, fractures of cranium, paralysis of facial nerve and even of some of the branches of the brachial plexus. Most of these, however, have arisen from a failure to appreciate the cardinal principle of a forceps delivery and should not militate against the proper use of the instrument.

In the high forceps presentation more children are lost because of the greater compression necessarily used and the prolonged application of the instrument. It is serious and difficult and attended with many disadvantages. Owing to the transverse position of the head and its mobility, it is impossible to grasp it in the bi-parietal diameter. It must be taken obliquely in an antero-posterior diameter, increasing, therefore, the head transversely, and in the wrong direction.

Moulding is thus in a great measure prevented. The forceps must be passed with reference to the sides of the pelvic canal, but after some descent has been made and rotation effected by walls of the maternal passages, not by the forceps, they can be withdrawn and applied in the proper diameter.

In most of these high applications there is some degree of pelvic deformity existing, which prevents the head engaging. The commonest is a flattening in an antero-posterior diameter, the amount of which can be determined by digital pelvimetry. If the true conjugate is found to be not less than $3\frac{1}{2}$ inches, according to Jewett, the forceps are permissible after the engagement of the head. Walcher's position may be of much use in cases of only slight contraction, in assisting the head to engage. It consists

in placing the mother's hips over the edge of a table, so that the lower extremities hang down free from the floor in extreme extension. In this way we may gain an increase of the conjugate vera of $\frac{3}{8}$ of an inch.

I have succeeded in using the Elliott forceps as an axis traction instrument; first, by keeping the line of the blades parallel with the axis of the canal in which head was placed; secondly, by grasping the handles by the right hand firmly making some compression, then placing the left hand above the right along the shank and blades of the instrument, and when traction was made by the right hand, the left hand pushed and guided the blades with the contained head downwards and backwards.

It is my habit in high application after the forceps are placed with patient in the dorsal position to then turn her on the left side. Traction directly backward in axis of the brim can then be readily made.

Slipping often occurs to the great chagrin of the physician. To quote again from Dr. Marx's paper: "This is first due to an improper application; that is want of coaptation to the foetal head or grasping an unusually long diameter. This can be ascertained by the marked separation of the handles of the forceps; also to failure to introduce the blades sufficiently far to make the cephalic curve conform to foetal skull, the blades nipping the sides of the head with their tips." There may also be a faulty position of the head, such as an occipito posterior; this being, according to Dr. Marx, a very frequent cause of slipping. If palpation of foetal head is made by introduction of whole hand, we can obtain a clear idea of the presentation and position.

Traction should be intermittent and with pains, first backwards and downwards and

then horizontally and forwards and as head emerges, upwards. We should imitate nature's methods and allow time for moulding of the head to take place and gradual dilatation of the maternal parts. When merely uterine inertia with no pelvic contraction exists, ten to fifteen minutes may be employed before delivery is completed.

When some pelvic disproportion exists, we should allow more time, as would reasonably take place if assistance were not given.

As to amount of traction force to be used, according to Landis no greater amount than from four to eight pounds is necessary. Jewett says it will vary from 10 to 80 pounds and that the resistance to a moving body, with the ensuing injury to the maternal tissues, increases as the square of the rate of motion; hence the necessity of avoiding undue haste. He advises at least $\frac{1}{2}$ hour for a low forceps delivery, considerably more for the high operation.

We can gauge the amount of force to be employed if we remember that under no circumstances is it ever necessary to use more than can be exerted by the hands only; the foot should not be braced against the bed to gain additional help.

Undoubtedly in those cases we hear of in which an enormous force was used, by one physician fixing his feet against the bed, and a second aiding him by a kind of tug of war arrangement, of grasping him round the waist, traction was made in the wrong direction, impelling the head against the pubes, instead of in the proper pelvic axis.

We cannot lay too much emphasis on the fact that traction must be backward and downwards, as the cause of failure in forceps delivery arises from the tendency to pull directly forwards. This, in my opinion

is due to delivery in this country being almost always with the patient in the dorsal position. If the latero prone posture were used, one could hardly fail to make traction in the proper direction.

To the aftercoming head in version, if manual extraction fails, we may have to complete the delivery by instruments. We must expect, however, in these cases to fail to extract a living child, on account of the prolonged delay necessitated.

As to the length of time of waiting before using forceps, no positive rule can be laid down. Each case must be judged by itself. In a general way we may say, if no advance is made in an hour or so after full dilatation of cervix has taken place, and there are no obstacles to delivery, but merely uterine inertia present, the pains dying away, it is safer to interfere and supplement the lack of the maternal *vis-a-tergo* by the *vis-a-fronte* of the forceps.

Why there should be such a wide difference of opinion on this point is somewhat incomprehensible to me. Why should so much conservatism be shown? Statistics show increased mortality in all cases of labor lasting over 24 hours. The average duration in primipara is from 12 to 15 hours, of multipara 8 to 10 hours. Do we always consider the dangers of a prolonged second stage of labor? From the standpoint of an evolutionist we should naturally expect a woman in the civilized state to have trouble in bringing her young into the world. When we consider how badly the average woman approaches the lying in bed, with hardly any reserve of physical force, with impaired kidneys, anaemic, imperfect digestive powers, with weakened muscles from a sedentary, inactive life, we can congratulate ourselves that so many weather the storms so successfully.

We all know the birth of a child should be a physiological process, over in a few hours, and require little or no assistance. This would imply, however, a healthy mother in every respect. Normal in age, strength and pelvic formation; whose gestation has been normal and surroundings hygienic, but how rarely are such conditions found. Because of the disturbing influences we have already mentioned, she soon becomes exhausted and drifts into a tedious and difficult labor.

We must remember delay injures the child and mother in direct proportion to its continuance and the depth of the child in the birth canal. The maternal soft parts lose their vitality from the long continued pressure, resulting in necrosis and the formation of the vesico-vaginal and recto-vaginal fistulae, or in lesser degree to the loss of function of the bladder requiring catheterization and danger of cystitis, and in the lowered resistance of the parts to infection and subsequent complications.

The interests of the child must not be forgotten, beside the pressure effects on foetal skull, there is danger of strangulation of the cord, as it is frequently knotted and twisted about its neck and body. Also of detachment of placenta from a shortened cord.

No possible injury can follow the proper use of the forceps. Barnes in his *Obstetrical Operations* says: "Properly speaking the mortality from forceps is nil, women die because the instrument is used too late."

It goes without saying, if asepsis and antisepsis are not followed, and the technique of its application not well understood, there may be trouble after an instrumental delivery.

In the Sloane Maternity, when the head has descended into the parturient canal, the

cervix being dilated, and no obstacle existing, after a wait of one hour, if there is no advance, the forceps are used.

My own habit is to wait two hours, when above conditions prevail.

As to the frequency with which forceps are used much depends no doubt on the character of the cases met with.

In primipara, as a rule, labor is apt to be longer and more complicated than in multipara, and we must expect to assist oftener.

In the Sloane Maternity about 12% of the deliveries are aided by forceps. The main indications with them are uterine inertia, contracted outlet, irregular foetal heart and passage of meconium.

In a series of 2,926 deliveries in the Basle Hospital, Switzerland, reported in Sajou's Annual, 156 or 5.33% were delivered by forceps, and of this number 83.3% were primiparae. The mortality was 1.28%, but not due to application of forceps.

In this set of cases interference was made when the second stage had lasted more than 2½ hours.

In 11,064 cases of labor in Buda Pesth Lying-in Hospital, there were 115 forceps deliveries in 1.04%, 101 primiparae, no deaths.

From the clinical report of the Rotunda Lying-in Hospital, Dublin, in the three years from '93 to '96 inclusive, there were 4,006 women confined in the wards. 117 were forceps deliveries or one in 34.

The indications were:

Delay in second stage.....	98
Rise in temperature.....	2
Rise in pulse.....	3
Slowing of foetal heart.....	9
Prolapse of funis.....	1
Accidental hemorrhage	4

87 of these were primiparae; only once was forceps used before head had passed

the brim. Two deaths, one from sepsis, who had been 20 hours in labor before admission, and had been frequently examined. She died nine hours after admission.

Report of Glasgow Maternity for 1896.
482 labors in hospital, 89 forceps,
about 1 in 5.

In same Maternity in Glasgow for 1897.
957 cases of labor, this includes out
door cases also, 32 forceps deliv-
eries, or about 1 in 30.

In the last 100 cases, in my own practice, 12 were instrumental, or 1 in 8, with no mortality to mother or child.

These statistics merely show how in widely differing localities the number of instrumental deliveries varies from 1 in 100 in Buda Pesth to 1 in 5 in Glasgow.

Undoubtedly the personality of the obstetrician has much to do with the amount of interference, but I hope the aim of this paper may not be in vain, if from the wide experience of those joining in its discussion this evening, we may be able to formulate some simple rules for our guidance in our obstetric difficulties in the future.

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RECENT INVESTIGATIONS OF THE PITUITARY GLAND.¹

BY

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There is perhaps no other field in the broad domain of clinical medicine that offers a better field for study and investigation than that of the internal secretions.

¹Read at a meeting of the College Medical Society.

Researches along this line have not been futile, and the results obtained have created an immense stimulus for work in this direction. Many of the old and untenable theories of disease of metabolism have given way to perfectly rational and tangible views regarding their cause and pathology. Notably among these may be mentioned the diseases of the adrenals, thyroids, parathyroids, islands of Langerhan's, pituitary, etc. It is the latter, viz. the pituitary body which we shall attempt to discuss briefly.

Vesalius first described this organ, in his "*De Corporis Humani, Fabrica*," in 1550, and called it the "*Glans Pituitam Ex-cipiens*" because of the mistaken idea, that this organ secreted the nasal mucus (*Pituita*). Sommering (1778) described it more fully and called it "*Hypophysis Cerebri*." Both thought the pituitary was a gland but as they could not find any duct, considered it a part of the nervous system.

In the light of our present knowledge, the pituitary body consists of two quite distinct structures that possibly have different functions. The anterior lobe or the hypophysis cerebri, is a glandular structure that develops in the embryo from the epithelium of the mouth cavity. The posterior lobe or the infundibular body is a mixed structure of nerve cells and glandular cells, which develops from the infundibular process of the brain. It is very difficult to experiment upon these structures owing to their position. Vessali and Sacchi state that removal of the entire pituitary body is followed by a group of symptoms resembling those caused by thyroidectomy, namely: muscular tremors and spasms; apathy and dyspnoea, which soon result in death. It has been suggested,

therefore, that the function of this body may be related to those of the thyroid tissue.

Prof. Ewald points out the close relationship between the thyroid gland and the hypophysis. According to his view they are embryologically, anatomically and hystogenetically parallel.

It is the anterior glandular part of the pituitary body which is developed, like the thyroid, from the ectoderm, through diverticulum from the posterior pharyngeal wall. The structure, like that of the thyroid, consists of acini, which unite and form follicles, and contain colloid substance.

It has been observed that in such diseases as myxoedema, cachexia thyreo-priva, and cretinism, the hypophysis is increased in size. The cells in the glandular lobe are enlarged and the amount of colloid material is increased. Hence these observers have assumed that when the thyroid is diseased, the hypophysis attempts to perform its functions; on the other hand cases have been reported in which the pituitary has been abnormal either in structure or in function, and the thyroid, and in several cases the parathyroids have been increased in size. In such cases, it is assumed that the thyroids and parathyroids attempt to compensate for the diseased pituitary bodies.

In addition to these changes, cases have been reported with severe diabetic symptoms; in some, symptoms were those of diabetes insipidus, in others a true diabetes developed:

Sajous considers that there is a direct connection between the adrenals and the anterior pituitary body, which takes place through the solar plexus, the splanchnic nerves, and the cervical thoracic ganglia

of the sympathetic. This he calls the adrenal system and regards the anterior pituitary body as the governing center of the adrenals, and therefore, of all oxidation processes. He attributes the symptoms of exophthalmic goitre to an over stimulation of the anterior pituitary body by the organic iodine secretion of the thyroid gland, and myxoedema to a reduced production of thyroid secretion which exhibits the function of the anterior pituitary body.

The experimental evidence on this subject is not uniform at present. Caseli like Vasseli and Sacchi have been able to produce a condition exactly analogous to cachexia thyreo-priva by removal of the pituitary, and he states that arrest in development of the pituitary retards the growth of the organism as a whole. Freedman and Maas removed the pituitary from cats but could not obtain the same results. Nevertheless, the great weight of clinical evidence, and the larger part of experimental study, tend to show that the relation is very close between the pituitary and the thyroid and the parathyroids.

The most important observation made in the study of the pituitary is its pathological relation to the development of gigantism and acromegaly. The original view of Pierre Marie was that the changes in acromegaly were due to an absence of function of the degenerated hypophysis, as in myxoedema by an absence of function of the thyroid. Benda, Henau and Woods Hutchinson accept the view of Tambourini that the pathologic development of the hypophysis is due to a hyperactivity and overproduction of the secretion which is to be used internally. Woods Hutchinson has gone so far as to say that the hypophysis is the seat of body growth. Spontane-

ous degeneration, consisting in hypertrophy of the connective tissue portions, cystic degeneration, sclerosis, atrophy, and tumor formation, is almost invariably followed by the syndrome of acromegaly. Hypertrophy may occur however without symptoms of acromegaly. Three cases of adiposis dolorosa are reported in which the pituitary was enlarged. In one of these cases it was found as large as a walnut.

The normal size of the gland is that of a grain of corn and it weighs about 0.5 gramme. It may attain the size of a pigeon egg or even a Tangerine orange and weigh from 20.0 to 58.0 grammes, an increase of from 4,000 to 10,000 per cent.

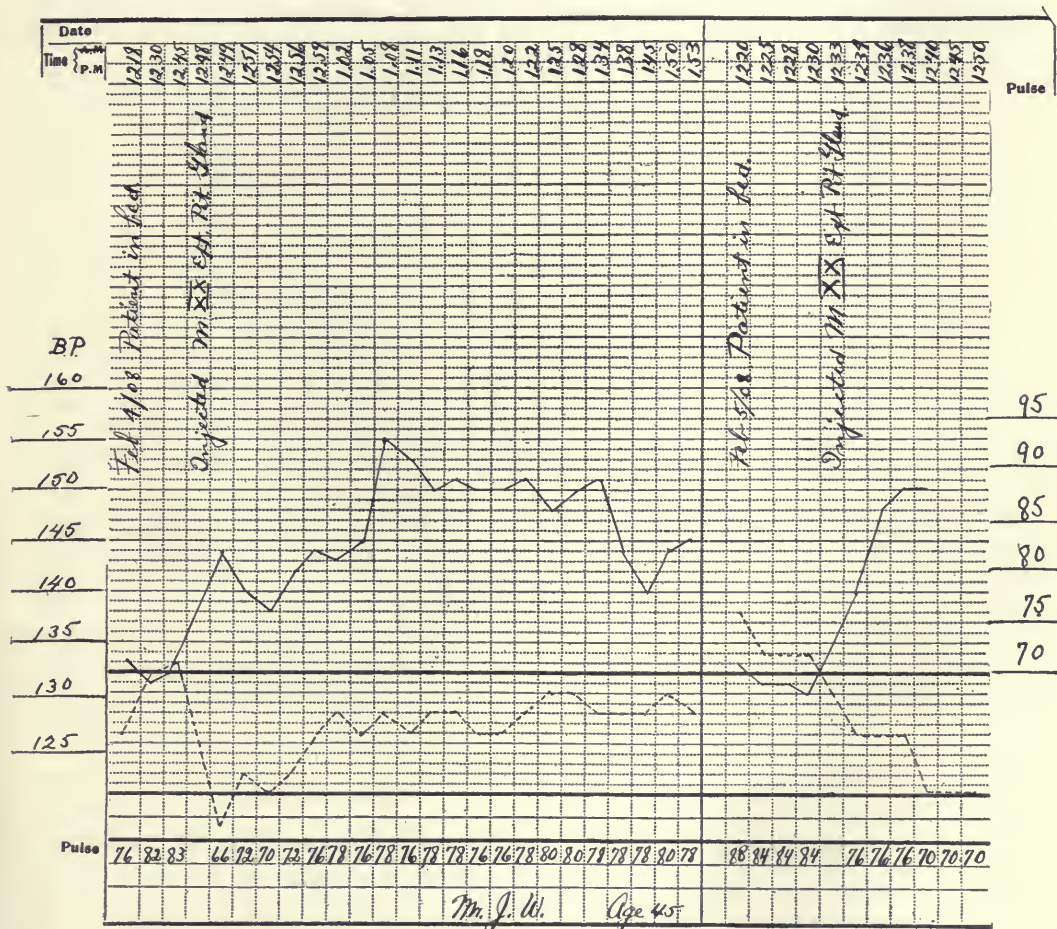
Seventy-seven autopsies have been made on cases of this disease, and in all except four the pituitary was strikingly enlarged. The thyroid has been found involved in 50 per cent of the cases in which this organ was examined, and the thymus was hypertrophied in seven and persistent in three of seventeen cases in which this gland was examined.

Injection of the infundibular portion of the organ produces a rise of blood pressure. Injection of the hypophyseal portion does not produce such a rise, but merely retardation of the pulse beat that persists to a certain extent, even after division of the vagi. A substance has also been isolated from the gland, which causes contraction of the arterioles and augmentation of the heart beat.

Injections of extracts of the body give results that vary with the lobe used. Extracts of the anterior lobe or hypophysis proper give little or no effect upon the heart and blood pressure similar in many respects to that caused by extracts of the adrenals. This difference in the effects of the extracts suggests that the two

bodies may have different functions in spite of their close anatomical connection. We have no direct evidence that these bodies furnish an internal secretion; but the absence in the adult mammal of a duct would imply that any product formed by them must affect the body by way of cir-

rise of intracranial pressure stimulates the pituitary body and brings about a slowing and strengthening of the heartbeat, and (b) chemically, by secreting substances which act upon the vagus and accelerator centers. In the second place, it affects general metabolism also by an action of these



ulation. Cyon, however, contends that the chief function of the pituitary body is to co-operate with the thyroids in regulating the blood flow through the brain. His idea seems to be that the pituitary body fulfills a double function. In the first place it serves as an automatic regulator of intracranial pressure, acting in two ways: (a) mechanically, in that a

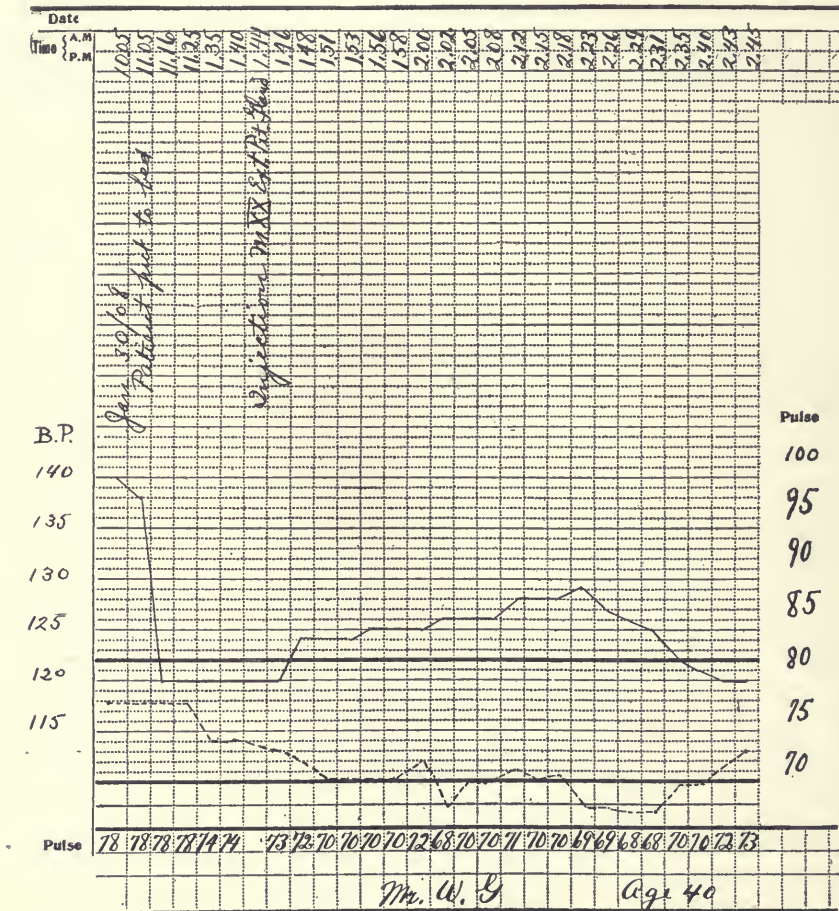
last mentioned substances on the vagi and sympathetic. For the experiments which led him to this somewhat elaborate theory, it will be necessary to consult the original paper, (Archiv. f. d. ges. Physiologic, 1909, Vol. LXXXVII, p. 565.)

Therapeutics.—Pituitary gland has been advantageously employed in the treatment of acromegaly. It seems to exercise no

effect on the course of the disease, but does seem to be efficient in relieving some of the most distressing symptoms, as for example: the headache, the neuralgic pains in the limbs, the general lethargy and loss of memory. In a series of thirteen cases reported, seven showed relief of symptoms,

our knowledge to give sufferers from acromegaly, the benefit of the combined use of thyroid and pituitary, in connection, of course, with other established measures for the relief of symptoms.

A series of experiments was made with reference to the effect of pituitary extract



easily distributed through psychical influence were eliminated.

From the results obtained, we can unhesitatingly say that pituitary extract increases the blood pressure and diminishes the pulse rate, the degree depending upon the dose of the extract, and upon the susceptibility of the individual. The preparation used was made by Parke, Davis & Company. Doses of fifteen to twenty minims produce a perceptible increase in the blood pressure, in from four to twenty minutes, and maintain it from twenty minutes to an hour or even longer, differing in this respect from adrenalin, in which the effect is far more transient. There is a coincident change in the pulse rate, diminishing as the blood pressure increases and increasing as it falls. However, this change is more gradual, as will be noticed on the charts, both in its downward course and its return to normal.

The rise in blood pressure varies from eight to thirty-eight mm. while the pulse rate falls from four to seventeen beats per minute. No untoward effects were noted in any of the cases in which larger or repeated doses were administered.

The inhibitory influence upon the pulse is more lasting than the influence upon the blood pressure.

Explanation of Charts. The figures on the left represent blood pressure; those on the right side and also at the bottom show pulse rate; while those at the top show the time of recording blood pressure and pulse rate, and also time of injections.

Patients were selected from the medical wards of the hospital, who were convalescent from their various ailments, so that one can say the experiments with the drug were practically on normal individuals, the continuous lines represent changes in the

blood pressure, while the dotted lines represent the pulse rate.

FRACTURE OF THE INFERIOR MAXILLA.¹

BY

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Variety:—These fractures are usually compound into the mouth. This is especially so when the break is within the teeth area. They may be single, multiple (two breaks in one half of the body, or one in either side), and comminuted. The single compound is the common form.

Fractures of this bone take place in the following order as to frequency:

1. Over seventy-five per cent of the breaks take place in front of the mental foramen. This is due to the fact that the bone is thinnest at this point. This weakness is caused by the foramen and the large socket for the fang of the canine tooth being so close together.
2. Between the mental foramen and the last tooth. This occurs in 18% to 20% of the cases.
3. Just posterior to the last tooth.
4. Through the angle.
5. Across the ramus.
6. The arch is at times broken.
7. Disarticulation of the symphysis menti.
8. The coronoid process. This one is naturally rare, Scudden reporting but two cases in his book.

Diagnosis:—The diagnosis is usually easy. There is a history of an injury, pain,

¹Read before the Twelfth Annual Convention of the American Medico-Pharmaceutical League, May 24th, 1909.

swelling, inability to open the jaw wide or to chew.

By examination you observe the irregularity of the teeth line. The best method to get the false point of motion is to grasp the jaw at the symphysis with the thumb and two fingers and with the other hand that part of the jaw posterior to the canine tooth; here the up and down movement will show you just where the break is.

Fractures back of the last tooth are more difficult to diagnose. Here keep one finger on the head of the bone and make motion of the jaw with the other hand. This will give only very slight movement of the head and this because of the large muscular attachments. The failure to get full movement indicates fracture. Now by work-down on the ramus you get the false point to motion.

Prognosis:—The prognosis is very good. Non-union is practically unknown. When slow union does occur it is usually due to a loose tooth or a piece of bone. Even those with syphilis get prompt healing. Union is generally complete in from three to four weeks.

In the poorly treated cases septic pneumonia is common and very often fatal. This can be avoided by attention to setting of the fracture and to cleanliness.

There is one point that I wish especially to bring to your notice. I cannot emphasize this too strongly; it is the steady drinker with a fracture. The death rate in this class of cases in whom alcohol is withheld is very high. Death is caused by delirium tremens and usually within the first ten days. Make it a point to ask every fracture case if he is a drinker. Find this out early, remember the earlier the better. Learn the quantity he has been in the habit of drinking and divide this in half and

give whiskey in divided doses. Do not be afraid to give more than one-half of the amount he says he drinks, remember he is cutting it down somewhat.

If your fracture case begins to get restless and twitches, without pain, swing whiskey to the limit. I have frequently warded off delirium tremens by this method. To prove this I have stopped whiskey for forty-eight hours and had the same symptoms return and in more marked degree. Exhibition of whiskey again brought things under control.

Treatment:—It is very important that the mouth be kept fresh and clean. No food must be allowed to rest between the teeth more than twelve hours. Any of the following solutions are useful: Sol. ac. boracic, bichloride 1-1,000, liq. antisepticus (N. F.) normal saline, formalin 1-10,000-1-15,000. They must be used every two or three hours. The solution chosen must be sucked between the teeth and the mouth thus rinsed.

Food will be liquid or semi-solid, as chewing must not be attempted. Even if we are able to leave the lower jaw free it is best not to allow chewing. This will make a side motion at the site of fracture and displacement is very liable to occur. Again, excessive callus formation is likely to be thrown out. Rest in these fractures is just as important as rest in all other kinds of fractures.

Reduction:—Reduction is easy in most cases. It is in the exceptional case that ether is called for. The main trouble is to keep the fragments in place. There are numerous methods and appliances used to effect this result. Each of the most commonly used will be taken in order.

1. The simplest is the four-tailed bandage with a slit in its center for the chin.

When in place the lower jaw is held firmly against the upper, which acts as the splint. The advantage of this is its ease of application and its usual good results. The main troubles are pressure and pain in the chin; mouth cannot be opened and teeth cleansed; difficulty in feeding, as all food must be taken through a tube; and pain over seat of fracture due to pressure. One or more teeth missing on the side of the fracture, especially if of the lower jaw, causes vicious union by its unequal pressure.

2. The moulded plaster of Paris cast on outside of jaw from angle to angle, and this held in place by a four-tailed bandage. No advantage over No. 1, with most of its disadvantage. It is also very cumbersome.

3. Fastening the teeth together with wire. This is done by passing a silver wire between the second and third teeth distal to the fracture, both anterior and posterior to the break; the ends are then twisted so as to hold the fragments in place. Now cut short and turn the ends in between the teeth. The immediate result is good, but in two or three days the wire stretches and begins to untwist. This permits the fragments to separate. The wire may be given a twist every two or three days to tighten, but it generally breaks when this is done. The wire also cuts into the gum and causes pain.

4. Interdental splint. A moulded cast of the side of the broken jaw is made. This must extend from two teeth in front of the break well to the angle. Another splint is now made from this cast. Be sure it takes in the gums on both sides. Place cast on and hold with four-tailed bandage. Same troubles as in No. 1.

Another plan is to fix wires to interdental splint and have them come out at

corners of mouth. These turn backward along cheek to just in front of angle. Connect both wires with a bandage under the jaw. Advantages: Can be used even if teeth are missing, when break is between last two teeth, and when back of last tooth; also patient can eat semi-solids.

Still another splint takes a cast of both upper and lower teeth including both sides of the jaw. From this a rubber splint is made in the center of which an opening is left for feeding. The jaw must be held in place by the four-tailed bandage. Where numerous teeth are missing, that is the best splint.

5. The Angle clamp and wire ligaments. This is by far the best method to use. It has but one contra-indication and that is the loss of the necessary teeth on which to fasten the bands. The clamp bands and wire ligaments come all ready for use. The bands are very pliable and come with set screws and holes for the ligaments. The ligaments are slightly flattened at one end while the other is threaded for the nut. Around the second tooth posterior from the break a band is placed as low down as possible. Mould it to the tooth and then put your set screw in and tighten. Pull up on your set screw till the band has a snug hold on the tooth. It cannot slip sideways as the tooth is irregular and, of course, it cannot slip over the crown of the tooth. Fit another band around the second distal tooth anteriorly.

The wire ligament is now passed through the holes in the bands having the threaded end anterior. Screw its nut on this end. Force jaws tightly together, thus making the upper jaw act as a splint for the lower and bring fragments into place. Now take up on your nut till ligament is taut. This will hold your fracture in alignment. About

every three or four days it will be necessary to take up a few turns on the nut.

With this splint the patient can eat anything he wants except tough meat. The cleansing of the mouth is easy and natural.

6. Wiring of the fragments. This should be used only as a last resort. If every thing else fails, one may have to wire, but be sure you have failed first. Wire to hold the fragments must be tight, and when tight it cuts its way into the bone. It also stretches. The extra holes in the bone invite infection. The irritation of the wire plus the secretions is liable to cause necrosis. When the wires are used an outside splint must also be used, as the wire alone fails to hold the fragments in place. It has no merits over any of the other methods.

With a fracture of the angle or through the ramus above the angle reduction and retention is simple. There is practically no displacement because of the strong masseter muscle. All that is needed is to immobilize the jaw—the masseter muscle acts as your splint.

Fracture at the arch is very difficult to treat. The external pterygoid muscle pulls the condyle forward. No dressing can make the fragments return to place. If possible push one finger into mouth along side of jaw on inner side of ramus. Locate condyle and face back into place. Now bind jaw absolutely tight so that there is no motion at all. A four-tailed bandage reinforced by a four-tailed adhesive plaster cast will prevent motion. If the condyle is not displaced manipulation of the fragments must be kept up till they are brought into fairly good alignment. Fix the jaw as above.

The only treatment with a fracture of the coronoid process is immobilization of the jaw. Fixation must be absolute so as to completely relax the temporal muscle.

Complications in Seat of Fracture:—

It is not usual that complications take place in these fractures. Healing takes place so rapidly that after ten days in the simple cases motion of the jaw is allowed.

As these fractures are usually compound, infection sometimes develops. In the mild form the pus forms along the line of fracture. It is discharged into the mouth and nothing worse than a slight delay in union results.

Abscess may form and this causes swelling and great pain. The swelling may extend below the line of the jaw. Open this abscess through the mouth if you can get satisfactory drainage, if not, make the incision external and parallel to the margin of the jaw. The bone itself may become involved and caries result. Sometimes a sequestrum will form and it may need one or more operations for its removal. Should a cellulitis complicate free incisions must be made both internal and external. It is better to connect the internal and external wounds with through and through drains. In making these incisions place same so that after healing, the external ones will fall within the line of the jaw. Make them heal from the mouth outward. They average four weeks in healing.

A fracture may tear the facial artery or vein or both.

Most of the infective complications can be avoided by proper attention to cleanliness of the mouth.

If the adjacent teeth are loose it is better not to remove them as they generally set in two or three weeks.

It is better to remove small pieces of bone even if they are not between the fragments.

1325 Pacific St., Brooklyn, N. Y.

THE LIFE INSURANCE "URINE EXAMINATION"—A FARCE.

BY

HENRY R. HARROWER, M. D.,
Chicago.

From the above heading many readers will undoubtedly expect to see some decided statements, and their expectations will be gratified. It is admitted that the thought embodied in the title of this brief article is fairly strongly stated, but, at the same time, it is to my mind absolutely true and there are many medical journals of repute which are not afraid to publish an arraignment, so to speak, of the present methods of uranalysis in general practice, and in particular, in the analysis made in the routine examination for life insurance.

I believe that I am not overstating matters in the least when I say that the urine examination properly performed and as extensive as circumstances will permit, is one of the most important single diagnostic procedures that we have. By saying this, I do not imply that other methods of precision are not valuable, but none of them gives as many pointers, either diagnostic or therapeutic, as the one series of tests called the uranalysis.

All reputable life insurance companies naturally demand a thorough examination of the prospective applicant for protection, in order that their medical directors and those under them can decide whether a case is worthy to receive a policy or not, so that their risks may be as sure as possible. I have had some slight experience

as an examiner for the Metropolitan Life Insurance Company, and have seen a number of the extended blanks of several other large companies which the medical examiners are expected to fill out in the routine of the so-called "medical examination." Both the old-line and the fraternal companies require careful medical examinations. The urine examination is usually part of the procedure, and it is about this examination that I wish to express a few thoughts.

Frequently the examiner is expected to receive a small specimen in his office, no special effort is made to have a part of a mixed 24-hour collection, and some companies prefer a specimen passed right in the office, thus eliminating the possibility of substitution.

The specific gravity is usually ascertained with the crude 35-cent urinometer so frequently found in the average physician's office. The urine is then boiled and perhaps Heller's test for albumin is carried out. Either the Fehling or Haines method are advocated for the detection of sugar. Some companies require more than this, but they are few and their requirements are not very much more extensive.

Let us dissect such a urine examination and the possible findings as mentioned above. Suppose the specific gravity is above the limit usually mentioned in the instruction books to company-physicians. Is it not entirely probable that the examination for specific gravity of an individual passage of urine passed during the summer months, will show a specific gravity of from 1,025 to 1,030? Is it not possible for an individual to have partaken quite freely of nitrogenous food, or to have made use of a little more than the usual amount of table salt, and in this way increase the

specific gravity of his specimen? On the other hand is a specific gravity of 1,008-1,010 not of common occurrence when the individual has drunk freely of water, especially when specimens are taken at random?

Again, the test for albumin is another source of trouble. A positive reaction does not occur in many cases which evidence renal disturbance and often traces of albumin may be present when there is no serious disease. I am acquainted with several individuals, and have heard of many others, who have been refused life insurance for the simple reason that there was a trace of albumin in their urine. Is there not such a thing as alimentary albuminuria? Is it not possible for albumin in the urine to be there temporarily, just the same as an excess of chlorides or a diminution in the phosphates? As a matter of fact in my experience which covers a number of hundreds of examinations I have found that albumin and even casts are comparatively frequently found associated with an excessive degree of urinary acidity—a condition which, when properly treated, may be speedily ameliorated with a resultant disappearance of both casts and albumin.

It is not to be presumed from the statements above that the presence of albumin in the urine is a matter of minor importance to be neglected or overlooked. A persistent albuminuria is usually evidence of something abnormal and if the associated functional abnormalities are modified and the albumin still persists, there is probably an organic disturbance. In this case, of course, the insurance risk is bad.

The test for sugar is usually crudely carried out by more or less unskilled hands and very frequently in a big hurry. Fehling's solution is the most common reagent,

and is by no means infallible. A number of substances are known which reduce this and other copper test-solutions and since this is a fact, would it not be well to be sure that the reducing substance present is positively sugar? For this reason the phenyl-hydrazine test is suggested, or as a fair substitute, the fermentation test. And even if sugar—real, unadulterated glucose—is present in small quantity the one examination is not enough, for it is entirely possible to have a condition of alimentary glycosuria.

As I have written before in other articles, a urine examination comprising only the tests mentioned above—specific gravity, albumin and sugar—is a very crude procedure. It might well be much more extensive and give the examiner information of much more extended value. For this reason I would suggest as a matter for thought the advisability of having the urine examination which accompanies applications for insurance for \$1,000 or more, made by an expert who knows how to do the work properly, said examination to include in addition to the usual physical measures, the chemical examination for albumin, sugar, bile, blood and indican and a quantitative examination for urea, acidity, ammonia and perhaps chlorides and phosphates. In addition to this, of course, a careful microscopical examination of the centrifuged sediment should also be made.

From such an examination it would be evident whether the individual was in a normal state of metabolic equilibrium; whether there was a disturbance of the kidneys or any other part of the urinary tract; whether there was an excessive degree of intestinal putrefaction, or other gastro-intestinal disturbances. In short it would be a measure of *real* diagnostic value.

What is worth doing at all is worth doing well, and I contend, therefore, that if the examination of the urine has been found necessary and advisable in life insurance practice that it might as well be done thoroughly. This naturally also applies to the uranalyses accompanying all physical examinations, whether for therapeutic suggestions or what not.

Conclusions: 1. The examination of the urine, and especially that made for the benefit of life insurance companies is altogether too crude and not nearly extensive enough. 2. Because of this individuals are being refused life insurance who would make excellent risks and, on the other hand, others are "passed" who are by no means what might be called healthy and, in fact, are in a serious condition. 3. The examination should be made by such as are skilled in this work and should be paid for accordingly. Three dollars is not an unreasonable figure. 4. There is room for considerable improvement in the work at present done along these lines, and it is to be hoped that with frequent and persistent stimulation progress may be eventually secured.

72 Madison Street.

THE SURGICAL TREATMENT OF HAEMORRHOIDS AND CHOICE OF METHOD.¹

BY

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Attending Adjunct Surgeon to the Har Moriah
Hospital; Examining Physician Beth Israel
Hospital.

Many of you may ask wherein lies the importance to warrant the consideration of such a minor affection; and some may ask,

¹Read before the Har Moriah Hospital Clinical Society, Oct. 21st, 1909.

can anything new be added to the numerous surgical methods of treating this presumably insignificant malady? I say presumably insignificant because there is a tendency on the part of hospitals and the profession at large to give but little consideration to such patients. Some hospitals would rather keep their beds vacant than admit haemorrhoid patients. I consider this as pure folly because such patients' sufferings as well as the certainty of undermined health from continued bleeding are of sufficient importance to command our most careful attention.

The average haemorrhoid patient when he learns of the nature of his affection, usually resorts to ointments or suppositories, both of which usually result in failure. I think that the value of these remedies should never be overestimated, and it should be explained to the patient that while the suppository may improve or cure a small internal pile in the incipient form, when these have reached a stage where they protrude freely during stool, then the only solution lies in the hands of the surgeon.

Having decided then to operate the question now arises as to which one of the methods to pursue so as bring about the removal of the superfluous dilated veins.

Binnie wisely states that each surgeon knows that the method he, the individual surgeon uses, gives better results than any other. While I may not give you any original method, nevertheless, I feel justified after having performed and followed up a series of cases, to point out to you one of the methods as the most advantageous over all others. I mean the ligature operation.

This operation is the one that can be applied to nearly all sorts of cases. Its simplicity requires no special apparatus or

instruments. This, if once done, properly assures the surgeon of no secondary haemorrhage as may occur with the cautery; this is especially important when dealing with anaemic patients or when the surgeon may not be close at hand to check the secondary bleeding. The ligation is best carried out with general anaesthesia, although external piles may be removed with a local anaesthetic, such as nobocain to which may be added some adrenalin chlorid, as has been done quite satisfactorily in a number of cases at the Har Moriah Hospital. The patient is prepared in the usual manner, particular attention being given to a thorough evacuation of the bowels and a good cleansing of the parts. Some make light of this and claim that such operations cannot and need not be done aseptically, but this is surely an error. Thorough asepsis should be carried out here as well as anywhere else, so as to remove the possibility of septic complications such as ischio-rectal abscess, etc.

While the patient rests in the lithotomy position, the sphincter is thoroughly stretched, cleansed, irrigated and inspected with a rectal speculum to find possible internal piles higher up. The surgeon now grasps each presenting pile separately either with a volsellum or tenaculum forceps, and with blunt pointed scissors which are curved on the flat he now cuts a groove in the lower two-thirds of the pile. This groove which serves as a bed for the ligature, also leaves a very small pedicle of tissue to be strangled, and this by virtue of severing the cutaneous nerves, diminishes greatly the post-operative pain. Strong silk double threaded is now passed through the center of the pile into the groove and each half of the pedicle is tied in the op-

posite direction, but before doing so, it is wise to cross the ligature material over each other, so as to interlock when tied. This, I believe, has the advantage of securing more thorough strangulation, and also prevents of slipping off of either of the two halves of the ligature.

Allingham advises to leave islets of mucous membranes as wide as possible between the tied pedicles, so as to avoid contracture causing narrowing of the rectum, and also because it gives a starting point of mucous membrane to cover up the sloughed-off pedicle. The after treatment which is practically the same in all methods is well known to all, and requires no detailed description.

Goodsall of London, after an operative experience of thirty-six years of diseases of the rectum, says that the ligature operation is not followed by recurrence if all the piles present are completely removed in patients above forty years of age. In a patient under forty years, all the piles may not have developed, so that later a secondary operation may be required. There are however, a small number of cases in which the patient comes back comparatively a short time after the operation, still complaining of the presence of one or two small piles. This is not due to the method, but to the individual operator. The anal tissues and surrounding parts being rather elastic, and as the sphincter is fully dilated, the none too careful operator may easily overlook one or two haemorrhoids which subsequently may give the patient as much discomfort as prior to the operation. Some patients a week or so after operation may complain of some pain during stool, which is due to small raw areas or fissures which ultimately heal within one to three weeks.

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CORRESPONDENCE.

THE EFFECTIVE MEDICAL TREAT-
MENT OF PULMONARY TUBER-
CULOSIS.

To the Editor:—

I agree with almost everything you write in your editorial this month (September), on the subject of pulmonary tuberculosis. I only wish you had gone one step further and asked if, up to date, there was no treatment which would greatly lessen the present frightful mortality. If you had done so and would be willing to believe the clinical proofs I have given the profession during twenty-five years or more, of the great power and efficacy of the creasote treatment, *as I advise*, internally and by inhalation, you would really be very helpful to a host of sufferers. I have yet to meet a patient who has been willing to do as I advise and who has not been benefited to a very appreciable degree, and many, very many, have fully recognized that they were more helped than in any other way they had tried. I refer you specially to my original paper in *Vol. 3 of the Transactions of the Association of American Physicians*. What I wrote and affirmed at that time, is equally true and important at present. I am *absolutely* confident that there is no known medical treatment of pulmonary tuberculosis that at all equals it, and it does seem a crying, lamentable shame that it should not be generally adopted and praised, or else with proofs, forever discarded. I have fought so long and earnestly to establish my claims, that I cannot willingly abandon them, especially as I believe the diffusion of them would prove of untold value to countless afflicted ones. The volume

I speak of I will gladly lend you, if you would read and ponder the statements I make and later use your voice and pen in behalf of a most worthy cause—the relief temporary, or permanent, of the very large proportion of those afflicted with pulmonary tuberculosis.

Yours very truly,

Beverly Robinson, M. D.

New York.

P. S. I was greatly interested in your explanation of "the cause of the diminution of tuberculosis mortality." In this connection permit me to quote textually, from a paper by me, read at a meeting of the Practitioners' Society, May 1, 1903.¹ "The late Prof. Austin Flint, a most distinguished observer, showed conclusively by the analysis of six hundred and seventy cases of pulmonary tuberculosis done in a very careful, judicious and erudite manner, that a proportion of one to fifteen of these cases are self-limited as to the duration of the disease, and will surely recover, if only a very moderate attention is paid to ordinary rules of living, and even amongst the impoverished and scarcely well-to-do of our land, in very numerous instances. Prof. Flint also showed that a nearly similar proportion would secure in like conditions a suppression of all symptoms for periods of time, of longer or shorter duration. Thus, the disease itself, even though the physical condition might remain became absolutely quiescent, so far as outward manifestations went—such as cough, sweats, loss of flesh and strength, expectoration, fever."

As Dr. Flint later writes and most wisely, now as then, "it is of interest to inquire in different cases of the same disease, how far the course and termination may be due to self-limitation."² Great man! great truth! I am proud and happy to have been introduced by him way back in 1875, to the students of old Bellevue Hospital Medical College, when I first began to lecture to them.

Yours,

B. R.

¹ Medical Record, Sept. 26, 1903.

² Flint on Phthisis, Philadelphia, Henry C. Lea, Archives of Medicine, Vol. 1, 1879.

ETIOLOGY AND DIAGNOSIS.

The Diagnosis of Peripheral Neuritis.¹

—In many cases of early neuritis, due to various causes, the chief symptoms according to Williamson are:—(1) pain in the legs; (2) tenderness of the muscles; (3) loss of the tendo Achilles reflexes; (4) loss of the vibrating sensation. In these cases, at a later period, the knee jerks disappear, and muscular paralysis and anaesthesia may develop.

In peripheral neuritis, as in tabes dorsalis, the tendo Achilles reflexes are often lost before the knee jerks, and the vibrating sensation is often lost before the sensations for touch, pain, and temperature. Hence these two signs are of much value in the recognition of both of these diseases at the earliest stages. The vibrating sensation may be tested by a large vibrating tuning fork, the foot of which is placed on a subcutaneous bony prominence (as the malleoli) or on the big toe nail, or on the sole of the foot. A penny placed between the foot of the tuning fork and the skin, may enable the patient to recognise the vibrating feeling more distinctly.

At the early stage, before there is actual paresis, peripheral neuritis is sometimes diagnosed as tabes. But in addition to other points in the differential diagnosis (Argyll-Robertson pupil, zones of diminished cutaneous tactile sensation on the trunk, etc., indicating tabes) there is one important difference between the two diseases as regards the muscular pain. In tabes, even at an early period, very often no pain can be produced by squeezing the muscles of the legs (calf muscles), however firm the pressure may be; whilst in peripheral neuritis pain is always produced by squeezing the calf muscle even when the symptoms are chiefly motor, and very often the muscles are particularly sensitive, and a slight pressure causes great pain. I have found this a very useful symptom in the differential diagnosis between the two diseases. Occasionally there is difficulty in diagnosing, at a later period, when the legs are paralysed, between

peripheral neuritis and acute anterior poliomyelitis of the adult affecting both legs. Usually the pain and muscular hyper-algesia of the former disease are so pronounced that the diagnosis is easy. But occasionally in acute anterior poliomyelitis there is some pain and tenderness in the muscles at first, and occasionally in peripheral neuritis these symptoms are not pronounced at first. The vibrating sensation is a useful aid to diagnosis in these cases. Loss of the vibrating sensation would be a sign in favor of peripheral neuritis, and would show that sensory parts of the nervous system were affected, and that, therefore, the case was not one of anterior poliomyelitis.

The value of the three symptoms here considered may be briefly stated in the following sentences:—

1. Loss of the tendo Achilles jerk, and loss of the vibrating sensations are useful signs of diagnosis between early peripheral neuritis and functional affections causing pain in the legs (pain due to acute illness, etc.), and would exclude the latter affections.
2. Loss of muscular pain on deep pressure would be a sign in favor of tabes, and the strongest evidence against peripheral neuritis in the differential diagnosis between the two affections at an early period.
3. Loss of the vibrating sensation would exclude acute anterior poliomyelitis of the adult in the diagnosis between this affection and peripheral neuritis.

A New Diagnostic Skin Reaction in the Acute Infections.¹

—The method employed by Hirschberg is as follows: The hairless portion of the arm or forearm is cleaned with ether. No alcohol, soap, water, or other disinfectant is used. Five or more scarifications are made (the number is dependent on the varieties of vaccines used) with a small metal screw-driver-like lancet. The blade is 0.3 centimeter broad and half-moon shaped. This makes an ideal scarifier when given the rotary motions of a screw-driver. It is so tempered that the half-moon blade may be repeatedly sterilized in an alcohol flame

¹ R. T. Williamson, M. D., F. R. C. P., Medical Chronicle, Sept., 1909.

¹ L. K. Hirschberg, M. D., N. Y. Med. Jour., Sept. 18, 1909.

without injury. The scarifications are made in two parallel columns an inch apart. Between each vaccination the scarifier is sterilized in the alcohol flame, thus preventing contaminations or mixed vaccines. The ends of the tubes containing the various vaccines are wiped with sterile gauze to clear away the spicules of glass. The usual amount of the various vaccines taken have been 2,000,000 gonococci; 40,000,000 *Staphylococcus aureus*; 4,000,000 streptococci; 8,000,000 colon bacilli, and 4,000,000 typhoid bacilli. In each case the amount corresponds to 0.1 c.c. of the stock vaccines of manufacturing laboratories. The skin is scarified with sterile water, a salt solution of physiological strength, or 50 per cent. glycerin and 1 per cent. phenol in isotonic salt solution. This is used as a control. Usually five other vaccinations are made. The types of organisms used depend upon the suspected infection.

TREATMENT.

Banti's Disease.¹—The disease or syndrome of Banti presents special characters which distinguishes it from other cases of splenomegalia. It is particularly chronic in its manifestations, and recognises three periods. The first period is characterised by two symptoms, enlargement of the spleen and anaemia. The spleen may attain very large proportions, invading the iliac fossa but preserving its form. The surface is hard and smooth, while the tumor is absolutely indolent. It is thus that the nature of the disease is frequently discovered by chance, in the course of examination.

The second great symptom is anaemia: the patient is pale, out of breath, presents cardiac souffles, and the number of red corpuscles as well as amount of haemoglobin is diminished. At this period the liver is of normal size and works well.

This condition is generally very long, running through two, three or even five years. At the end, abundant haematemesis may set in, compromising the life of the patient. The second period is shorter and presents as principal symptoms a decrease in the diuresis and an increase in

the volume of the liver, provoking gastric disturbance, dyspepsia, and haemorrhoids.

The third period is marked by the presence of ascites due to atrophic cirrhosis of the liver. After one or two evacuations of the liquid by tapping, the general health is affected; gastro-intestinal haemorrhage appears, as well as epistaxis and purpura, and death comes on from hepatic insufficiency. The duration of this period does not exceed eight months.

As to the mode of development of this malady opinions are divided. MM. Gilbert and Lereboullet consider the malady of Banti as belonging to the class of hypersplenomegalic cirrhosis. From the beginning the liver is at fault, while the enlargement of the spleen is consecutive to the alteration of the liver. M. Chauffard, on the contrary, sustains the existence of Banti's disease: for him the lesion of the spleen is primary, secreting noxious products which reach the liver through the splenic and portal veins provoking consecutive cirrhosis. This idea has the advantage of being verified by experimental research.

As to the treatment, it may be said at once that Banti's disease can get well even when abandoned to itself. In such cases the treatment might be limited to the secondary symptoms: the haemorrhage and ascites when necessary, while cod-liver oil and arsenic may be given for the general health. Injections of atoxyl up to two grains every second day, have been tried with success. Mery recommends injections of cacodylate of soda. Surgical treatment has been recommended, the spleen has been removed at an early date and before hepatic cirrhosis set in. Banti furnishes 16 cases thus treated and which recovered, while Harris and Herzog give statistics of 19 operations, of which 14 were successful.

Blepharitis Marginalis.¹—Inflammation of the lid edges occurs in two forms. (1) Blepharitis squamosa, in which the lid edges are reddened and covered with dry branny scales; and (2) blepharitis ulcerosa, in which the lashes are matted together in hard crusts. Small ulcers are

¹ Med. Press and Circular, Sept. 22, 1909.

¹ J. W. Summers, M. D., Medical Council, Oct., 1909.

found around the eyelashes when the crusts are removed.

This apparently trivial disease may result in chronic conjunctivitis; trichiasis, wild hairs (which cause much annoyance by sweeping the cornea); madarosis (total loss of the lashes, or baldness of the lids); contraction and eversion of the lower lid. The exciting causes of this disease are astigmatism, over use of the eyes, closure of the tear duct, bright light, smoke, dust, etc.

Remove all crusts and scales by bathing the lids for ten minutes with a solution of sodium bicarbonate, one teaspoonful to one pint of hot water; after which rub thoroughly into the roots of the lashes a 1 per cent. yellow oxide or ammoniated mercury ointment. To prevent irritation the ointment should be made up as follows:

R Hydrag. ox. flav. (or ammon. Merc.)
gr. j.
Ol. olivae, mx.
Misce et add
Lanolin
Petrolatum alba, aa gr. L.
Misce.

A simple nutritious diet should be prescribed, with all meats and pastries excluded. *Refractive errors should be painstakingly corrected.* The patency of the lacrymo-nasal duct should be ascertained. The patient should be removed from all irritating influences. Syrup of the iodide of iron or cod liver oil may be indicated.

A New Method for the Treatment of Suppurating Bubo.¹—Murtagh reports a method of treatment devised by Captain William L. Keller, Medical Corps, U. S. A. The points upon which the success of the treatment depend are briefly as follows: (1) Thorough application of the actual cautery to the infected ulcer. (2) Incision into healthy skin, usually in an area one to one and a half inches covering the bubo. (3) Thorough removal of the diseased glandular tissue and complete irrigation of the cavity. (4) Thorough drying of the cavity as nearly as possible by pressure, before introducing an emulsion of 10 per cent. iodoform, and rest in

bed for a few days after operation. The advantages of this method of treatment may be summed up as follows: Immediate relief from pain and discomfort; rapid healing of the skin incision and of the diseased glandular cavity; absence of a painful and disfiguring scar; avoidance of a long, tedious period of recovery, usually experienced by other methods.

THERAPEUTIC NOTES.

Turpentine Stupes.¹—Turpentine stupes merit more frequent use than at present obtains—a fact no doubt due to error of application, and in consequence uncertain, if not at times unpleasant effects. In the preparation of stupes the temptation is to put the turpentine into the water in the basin. The result is uncertainty, if not defeat of effects. The medicament swims on the surface, and when the water is agitated clings to the free rim of the basin above the water. All these disadvantages are overcome by dropping the turpentine (from five to ten drops only) on the flannel cloth and pressing it gently between the palms a few times, after first wringing the cloth from water as hot as the hands will bear. By this method there is no loss. The requirements of the most delicate infant or resistant adult can be met with certainty. In the former, and all stuporous patients, the effect of such applications should always be watched with care.

Strophanthus, Digitalis, and Nitrites in Heart Disease.—Digitalis (*The Practitioner*, Sept., 1909) is by far the most powerful of the drugs in ordinary use for diseases of the heart, and in the light of the newest teaching in regard to the physiological principles to be followed in medical treatment, especially concerning cardiac rhythm, further scientific investigation is needed. In unsuitable cases, digitalis may cause deplorable results, for, besides its action on the heart, this drug has a pronounced effect upon the blood-vessels, causing vaso-constriction, and, therefore, a rise of blood-pressure. Dr. Langdon Brown puts the whole case very well when he says, in his teaching on

¹J. A. Murtagh, M. D., New York Medical Jour., Sept. 4, 1909.

¹Medical Council, Oct., 1909.

physiological principles in treatment, that it is to be hoped that in time it will be generally realised that it is as rash to give digitalis without taking the blood-pressure as it is to give morphia without examining the urine. There is no doubt that at present digitalis is prescribed frequently for a heart that is failing behind a pressure that is already excessive, the fact being overlooked that the administration of strophanthus is preferable if the blood-pressure be distinctly raised, for this drug has a similar cardiac effect to digitalis, but a much smaller vascular one. Supposing, however, that a medical man persists still in using digitalis in such a case, then he should remember that a nitrite must be given also, so as to act as a vaso-dilator. It has been clearly shown by Cushny that in such a case the best results are secured by frequent small doses of nitro-glycerine, which need not be administered for some hours after the digitalis; the reason for this is that the action of digitalis sets in rather slowly, and persists for a long time, whilst nitrites act rapidly, but are excreted comparatively soon. It is worth noting, incidentally, that, in the experience of Dr. Langdon Brown, of all drugs in the treatment of heart-block, strychnine yielded him the most striking beneficial results, and the improvement followed its exhibition so frequently and so speedily that the benefit cannot be regarded as a mere coincidence.

The Therapeutics of Infantile Eczema.¹

—The treatment of this condition, says Abt, resolves itself into local and constitutional measures, mainly the latter. The dermatologists who direct local treatment advise, in addition to the dietetic treatment, that the crusts be removed by softening with liquid petrolatum. In the eczemas of the scalp the removal must be gradual to prevent fever and other serious results. The aluminum acetate used as a poultice in most eczemas acts well in the removal of the crust. After the crusts have been removed the use of the following paste is advised, this being covered with a well-fitting mask:

	℞	gm. or	c.c.	
Zinc oxidi	.....	27		5vi
Adipis lanæ hydrosi	.....	4	or	5i
Liquoris calcis	.....	30		fl.3i

Olei amygdalæ expressi 4| fl.5i
M. et Sig: Apply as directed.

In the milder cases a powder of zinc oxid 30 per cent., and talcum, 70 per cent., acts well. Scratching is prevented by putting the arms in light splints. In the obstinate cases in which these measures do not seem sufficient, ointments of naphthalene (5 to 10 per cent.) for the itching, or sulphur (2 to 5 per cent.) in the seborrheic form, or salicylic acid (0.5 to 2 per cent.) in the dry disseminated type, may be employed.

When the moisture is no longer present, zinc oxid and olive-oil, equal parts of each, is often indicated. In the stubborn dry cases some tar ointment is often of service, as 0.1 to 1 per cent, oleum rusci or oleum cadini or a weakened tar oil, as unguentum picis of the National Formulary.

I have frequently found that the dry form yields to the application of simple cerate, which is dusted over with talcum or rice powder. Sulphur baths are sometimes useful and a short course of treatment with Fowler's solution in the refractory cases and wine of colchicum in the gouty cases yields good results. Where constipation is a marked feature of the case I have frequently found laxative waters of value; in other cases, especially those of older children, the compound infusion of senna has relieved the constitutional symptoms and diminished the local irritation.

The constitutional treatment consists in the main in the regulation of the diet, although measures looking toward relieving any intestinal disturbances must not be overlooked or underestimated. Dietetic treatment is usually sufficient to cure a beginning eczema and to prevent the occurrence of complications. Some clinicians restrict the amount of nourishment given, besides modifying its composition. The fact that the disease occurs in infants who are breast-fed as well as in those who are fed artificially, emphasizes the necessity of specific treatment of individual cases. Good results have been reported from the employment of what has come to be known as Finklestein's soup. Finklestein thought that this form of eczema was due to milk salts, regardless of fat or protein. Therefore, he coagulated the milk with pegginn, added one-fifth of the whey

to the coagulum, and oatmeal water to make the original quantity. Cane-sugar was added in varying quantities. A number of clinicians have employed the method, some with good success, while others met only failure. My personal experience has not been such as to warrant me to recommend this treatment.

Good results have also been obtained from the use of skimmed milk, buttermilk, gruel and predigested milk. Whey has yielded remarkably good results in some cases. On the whole, it may be said that a milkpoor, restricted diet with addition of cereal, the exclusion of eggs and meat broths, as a rule, yields good results in a short period of time. Older infants should also be given fruits and vegetables.

HYGIENE AND DIETETICS.

Immunity in Its Relation to Public Health.¹—Summarizing the problems of immunity as they bear upon the prevention of infectious diseases, Pease says that:

First. In some cases some of us possess a natural protective power or natural immunity. This, as such, cannot be produced or enhanced by artificial procedures.

Second. We frequently acquire a somewhat similar but probably different power through our survival of an accidental attack of these diseases. The most common of these are scarlet fever, measles, whooping-cough, smallpox, chicken-pox, typhoid fever and yellow fever.

Third. We may obtain active protection or immunity by submitting to an artificial specific treatment with the mitigated or altered infective agents of the germs of these diseases. Our best illustrations are in vaccinations against smallpox and the Pasteur treatment against hydrophobia.

Fourth. We can obtain a passing protective immunity by the use of the active immune substances which we have produced artificially in other animals. Here our best examples are the antitoxins of diphtheria and of tetanus.

As to which of these four is the most important it needs no argument to main-

tain the principle that to bring about a condition of *natural* immunity to infectious diseases would be ideal. However, we have seen that it cannot be done artificially by any simple procedure. From the broad standpoint of biological principles such an ideal state will only be developed through a process of evolution. Either the germs of disease will become less virulent or the natural immunity of the body will be developed.

That these processes are at present in active operation is generally believed; that they are frequently interrupted by mankind through the introduction of a new environment is undoubtedly true.

Civilization, in its efforts to reach results at a too rapid rate, and a failure to progress at a uniform pace in all directions, can be relied upon to disturb those processes of natural selection which are doubtless operating for our good.

However, not even the most pessimistic students of the subject believe that these disturbances change to any serious degree our *outward progress*.

Our efforts to assist natural evolution, whether by the practices of preventive inoculation, serum injections or the production of passive immunity or by all those operations looking toward the isolation and destruction of disease-producing agents before they reach the body, must be continued. These, however, must be supplemented by untiring attempts to discover new methods and principles by painstaking researches.

The Action and Uses of the Oxygen Bath¹.

—Grosse says it can be taken as sure, that the oxygen bath *reduces abnormal augmentation of blood pressure, rate of pulse and respiration*, while the healthy are not more affected than by a corresponding plain water bath of like temperature and duration. As the skin certainly does not contain more blood, this must be directed more toward other areas. And as there are no phenomena whatever that might point to congestions of inner organs, Winternitz' suggestion seems to be acceptable

¹ H. D. Pease, M. D., Med. Review of Reviews, Sept. 25, 1909.

¹ Friedrich Grosse, M. D., The Post-Graduate, Sept., '09.

that the blood is chiefly turned toward the skeleton muscles. However this may be, the oxygen bath acts just contrary to the carbon-dioxide tub, which drives the blood toward the skin, powerfully depleting the inner organs.

Winternitz holds that the prickling sensation in the water is attributable to clonic contractions, and is identical with the pulsation of the skin heart. Though it may be alluring to assume according to the palpitation and tachycardia of the time-honored old pump behind the chest wall, some such corresponding phenomena of the new (skin) heart of Hutchinson, Winternitz' suggestion can hardly be accepted, as, after all we know about it, its rhythmical pulsation is rather slow, with long waves, and apparently the prickling of the O_2 bath is caused by the mechanical impact of the bubbles upon the nerve terminals and lanugo hairs; indeed, it is more felt when the development of oxygen is more lively and when, after we have wiped away the O_2 layer, a new one is forming.

In his first publication Sarason suggested that oxygen might be present as ozone, but according to Schnuetgen all ozone tests were negative.

It is plausible to assume that the oxygen is of especial importance, the more so as it seems to be present in its nascent form. As to this we see, indeed, favorable effects wherever an increased respiratory intake, independent of a bath, is known as being of benefit; here asthma and cyanosis and difficult breathing, incidental to pulmonary congestion, may be mentioned.

Oxygen being one of the most powerful disinfectants, it is obvious that we may expect results due to this effect, especially if we remove the condensed air involucre. What we may hope as to cutaneous antiseptics in infections such as measles, scarlatina and small pox, or as to the healing of open wounds, as for instance in extensive burns, depends upon the way the ingredients act upon open wounds. If future researches should prove them as free of undesirable by-effects as hydrogen peroxide, valuable suggestions concerning the treatment of cutaneous conditions may be forthcoming.

Independently of the chemical part of the oxygen, we have to consider the physical effects of the gas bubbles.

The minute oxygen bubbles, forming and bumping against the nerve terminals, running into one another, driving up and striking along the lanugo, acting like a gas brush, as Sarason aptly pictured the process, exert uniform, mild and constant stimulation upon the nervous endings, resembling in action a sublime massage. All stimuli of the outer world being excluded, the effect of this ideal over-exertion, conveyed toward the nervous centres, institutes a sedative action, almost like the continuous bath, the sovereign calmative effect of which is generally recognized. In conformity with this, we see that all writers on the subject lay stress upon its sedative character in the manifold paresthesias of neurasthenic, hysteric and tabetic origin and its decided and reliable soporific action. At the same time it has a soothing and indirectly stimulating influence, as is evident in asthma and other respiratory difficulties, and in its distinct corrective action upon pulse irregularities of all kinds, and thus it, doubtlessly, resembles the carbonic acid bath, the outbalanced pulse becoming stronger, slower and regular.

In conclusion, we may outline the physiological action of the oxygen bath thus: (1) It is a neutral bath, that (2) acts oxydizingly and disinfectingly upon the skin; (3) it has a powerfully suggestive influence, and (4) alters innervation *a.* by discontinuation of paresthesias, *b.* by its sleep-promoting peculiarity and *c.* by its generally sedative and indirectly stimulating action. (5) It is a circulatory revulsive, turning the blood from the skin toward the inner body, most probably, especially into the muscular areas, and (6) it reduces an abnormally increased blood pressure, at the same time probably rendering the blood less viscid.

Though the literature on oxygen gas baths is not voluminous and many points may be still disputable, further experimentation will hardly bring forward new facts of greater importance.

Grosse concludes by saying that Winternitz, the father of hydrotherapy, is right in stating that the oxygen bath forms a new link in the chain of procedures adapted to domesticate hydrotherapy. It is welcome as a substitute for other hydriatric applications, valuable as to innervation and O_2

ingestion and, above all, entirely new and without parallel as a peculiar circulatory revulsive.

SOCIETY PROCEEDINGS.

THE EASTERN MEDICAL SOCIETY OF NEW YORK.

Stated Meeting, Friday, Oct. 8th, 1909.

The President, Dr. Wolff Freudenthal, in the
Chair.

1. Presentation of Specimens and Report of Cases.

- (a) *Gestation Uninterrupted by Curettage.*
- (b) *Threatened Abortion, treated by Removal of right diseased Adnexum.*
By Dr. A. J. Rongy,
(To be published next month.)

2.

- (a) *Gastro-Enterostomy for Perforated Gastric Ulcer.*
- (b) *Pyloric Obstruction.*
- (c) *Typhoid Perforation.*
By Dr. Chas. Goodman.

Dr. Chas. Goodman, in presenting a case of gastro-enterostomy for acute perforated gastric ulcer, said that the patient, I. S., a male, had been admitted to Beth Israel Hospital on Feb. 23rd, 1909. Previous history: habits regular; for two years past he had had some vague abdominal pains, with marked constipation. For the previous three weeks there had been some pain, on and off, in the epigastric region and right flank. The pain had no relationship to the patient's meals.

Present history: On Feb. 23rd, at 5 o'clock, p. m., he had been suddenly seized with severe pain in the abdomen, especially in the umbilical region and right flank; but in general all over the abdomen. The pain had been so acute that the patient had gone into collapse and vomited profusely. He had been removed to his home, and then admitted to the hospital at 2 o'clock in the morning; operated upon two hours later, about 11 hours after the first onset of symptoms of perforation. The patient had presented at that time more or less rigidity and tenderness of the abdomen, most marked in the epigastric and right iliac regions. Dulness in the left flank but not in the right. Liver dulness anteriorly was entirely replaced by tympanitic note. Temperature 102, pulse 108, respiration 34. Blood count had shown a leucocytosis of 16,000, with 88% polynuclears. Urine negative.

Tentative diagnosis had been peritonitis due to perforated gastric ulcer. The patient had been anesthetized, and an incision made through the right rectus. The peritoneum

when opened was followed by escape of gas and large quantities of sero-purulent fluid. The incision was extended to 4 inches in length. The intestine was very much injected and covered with flakes of fibre. At a point corresponding to the lower border of the anterior aspect of the pylorus, near the greater curvature of the stomach, there was a rent, easily admitting one finger. The contiguous wall of the stomach was very much indurated, callosified and thickened. After several efforts the speaker had succeeded in introducing 3 Lembert sutures of Pagenstecher thread, which had closed the rent. Being obliged to invert considerable of the stomach wall in order to get the sutures to hold caused some kinking of the pylorus. That, and the situation of the perforation, had induced the speaker to add posterior gastro-jejunostomy to the operative technique.

A cigarette drain and a narrow strip of gauze had been inserted in the region of the pylorus, and a soft rubber tube introduced into the pelvis, through a stab wound in the abdominal wall. The original wound had been sutured in layers, leaving room sufficient for the drainage. The patient had been put in Fowler's position and rectal saline instillation by the Murphy method introduced. During the first 24 hours there had been a profuse discharge from the pelvic drain. This had subsided and at the end of 6 days the drain had been removed. The upper drains had been replaced by rubber tissue at the end of 8 days, and the wound then permitted to close.

The temperature had ranged between 99 and 101° during the first week, reaching 102 on one day during the second week, due to slight retention following removal of the drain. The pulse had varied from 80 to 110. At the end of 48 hours hot water had been given in small quantities by mouth, and albumin water on the fourth day. On the tenth day soft diet had been given, and the patient had been ready to be discharged from the hospital at the end of four weeks.

Cultures taken from the peritoneal cavity at the time of operation had proven negative. The patient had weighed 99 pounds when discharged from the hospital, and at the present time weighed 108 pounds, being able to take usual nourishment without distress. He had resumed his former vocation.

Dr. Goodman thought the interesting feature of the case was the question of diagnosis. Given a patient, who, whether or not gives a previous history of gastric disturbance, gives a history of sudden, acute pain in the abdomen, followed by collapse, one must think of perforation of viscera, and if the pain is referable to the right hypochondrium, perforating gastric ulcer is thought of on account of its frequency. With a leucocytosis shortly following these symptoms, and absence of liver dulness, the diagnosis can be practically clinched. The treatment in this condition would seem to be immediate operative interference. The mortality in these cases rises very rapidly, as the time elapses from the time of onset of the symptoms. If cases are operated on within

24 hours or less, the prognosis is good. If more than 24 hours, the mortality is exceedingly large.

Regarding the technique, Dr. Goodman wished to mention one point—the question of gastro-enterostomy. Although he had succeeded in closing the wound with Lembert sutures, the margins of the ulcer had been so calloused and thickened that with the marked spasmodic condition of the pylorus always present in such cases, there had been a question as to whether or not the sutures would hold. Gastro-enterostomy not only would relieve the tension on the sutures, but would drain the stomach contents.

In presenting a case of gastro-enterostomy for pyloric obstruction, Dr. Goodman said: The man, 52 years of age, had been admitted to Beth Israel Hospital on Aug. 24, 1909. For five weeks prior to his admission he had been suffering with pain in the stomach. At the time of admission he could retain no food. Examination had shown clinical evidences of pyloric obstruction. An irregular mass had been felt in the region of the pylorus, and owing to the emaciated and anaemic condition of the patient, one would be justified in making a diagnosis of carcinoma of the pylorus. An exploratory operation had been performed through the right rectus muscle, and it was found that the pylorus was bound down by dense adhesions and completely obstructed. The condition of the patient had been very serious, and there was little time in which to debate the choice of procedure. The speaker had felt that gastro-enterostomy was the quickest means of giving relief. Clamps were not used, but instead, two guide sutures were introduced, outlining the points of incision in the posterior wall of the stomach and jejunum. Chromic catgut was used for uniting the mucous membranes, suitably were reinforced by peritoneal sutures of Pagenstecher thread. The patient had shown every evidence of not having absorbed nourishment for some time. Hot water had been given 6 hours after operation, followed in 48 hours by fluids. The patient had responded very kindly after the operation and had been discharged from the hospital in less than 3 weeks. Inasmuch as the patient had gained in weight and improved, the speaker was at loss to know whether the case was really one of malignant carcinoma; he thought possibly not. If one could take the recent examination of the stomach contents as a clue of any assistance, it was given as follows:

"Ewald's meal showed presence of free hydrochloric acid, absence of lactic acid. Topfer's test showed diminished hydrochloric acid. No Boas-Opller bacilli or tumor cells found."

Dr. Goodman's third case, typhoid perforation, was not presented, the patient being out of town. He made a brief report of the case and promised to present the patient at the next regular meeting of the society.

He said that the patient during his third week of typhoid contracted symptoms of a perforation of the intestine which were recognized by the staff of Beth Israel Hospital, and

the patient immediately operated upon. A perforation of the small gut about seven inches distant from the caecum was sutured. The patient made an uninterrupted recovery and is reported to be enjoying good health.

Dr. G. A. Friedman, opening the discussion, said, in regard to Dr. Goodman's first case, acute pains and collapse did not allow one to make a positive diagnosis of gastric ulcer. Certainly it justified one in opening the abdomen because there would be something found, but acute pain as described by Dr. Goodman quite often would happen in acute pancreatitis, and not one but many mistaken diagnoses had been made in that respect.

Referring to the gastro-enterostomy performed by Dr. Goodman, the speaker did not see why the operation had been necessary. He himself had had an analogous case a few weeks before. There had been perforation of the stomach, with pus and adhesions. The operation of gastro-enterostomy had not been performed, but the patient had been sewn up and had made a quick recovery.

Regarding the analysis of the stomach contents, in the case of pyloric obstruction due to carcinoma, he did not think the presence of free hydrochloric acid and the absence of lactic acid would speak against carcinoma. Quite often free hydrochloric acid was found in cases of pyloric obstruction due to cancer. Lactic acid is mostly absent in early cases of pyloric cancer. The speaker had had a case of his operated a few weeks ago by Dr. A. Berg. There had been stagnation of food on a fasting stomach, without a palpable tumor, with small amounts of free hydrochloric acid but no lactic acid in a patient of carcinomatous age; yet Dr. Friedman had made a diagnosis of cancer, and this diagnosis was proven at the operation.

Dr. Anthony Bassler said he would like to report a case he had seen that afternoon which he thought rather unusual, it being the second he had seen in two or three weeks. The speaker was sorry Dr. Goodman was not able to show his case of perforating typhoid ulcer. The case Dr. Bassler referred to was one of a young man in St. Vincent's Hospital, a typical typhoid case with perforation occurring in the third week. Eight days ago the abdomen had been opened, the perforation sutured and the young man had made an uneventful recovery. Night before last the patient had been so very well—having had a normal temperature for several days—that the house physician had given him a dose of calomel, followed the next morning by a saline cathartic. After this the patient went rapidly into a condition of *extremis*, with fecal vomiting, was pulseless in the afternoon and the speaker felt sure he would die in the evening. This had been the second case of perforating typhoid ulcer which he had recently seen go along nicely, then go quickly to the bad after a dose of calomel. He did not know of such cases mentioned in the literature. He cited it as a warning, and said that there evidently was reason to believe that cathartics should be

withheld following repair of a perforation of the hollow abdominal viscus until long after operation, and that enemas would be safer to employ for moving the bowels in the interval.

Dr. S. Barsky said he wished to emphasize a few points in gastric ulcer. He thought pain and shock an indication of gastric ulcer. Dr. Goodman had mentioned one point—namely, the obliteration of liver dullness. The symptoms were identical with those of gastric ulcer, the speaker thought, and very valuable as a differential point in the diagnosis. As for the presence of hydrochloric acid in the gastric condition Dr. Friedman mentioned, it should be remembered, the patient might originally have had gastric ulcer.

In closing the discussion, **Dr. Goodman**, in replying to Dr. Friedman, said that he had mentioned a patient with or without previous history of gastric disturbance. With a patient having sudden, sharp pain in the abdomen, going into collapse, and with the presence or absence of liver dullness, one would first think of gastric ulcer. These cases must be operated upon early. They were not cases where one could observe and make tests for days, etc., to see whether or not operative interference was indicated. They must be operated on within 24 hours after the onset of the symptoms. The speaker thought Dr. Friedman would admit that the symptoms indicated a surgical condition.

Dr. Barsky had said that he, the speaker, had observed the absence of liver dullness recently in two cases of acute pancreatitis. Dr. Goodman admitted that some of the cases would get along well and recover without gastro-enterostomy, but that the almost unanimous opinion of all surgeons who did a great deal of intestinal surgery, particularly in the class of cases where the ulcer had indurated edges and could not be excised, was that gastro-enterostomy was indicated. The speaker thought that the report of his case justified gastro-enterostomy.

Referring to Dr. Bassler's statement given in the report of his case, Dr. Goodman thought that because a patient recovered from one perforation in typhoid fever, it did not follow that he would not have another.

3. *The Clinical Significance of Sacro-Iliac Disease.*

by Dr. F. H. Albee.

Discussion opened by **Dr. H. W. Frauenthal**, who said he wished to congratulate the Doctor on his paper. He himself had seen between forty and fifty cases of sacro-iliac disease. He had shown six at one of the society meetings. He had had a patient who had seen most of the leading men in New York, and had been treated for lumbago. The joint ruptured. For a period of five months the patient had been unable to rest in bed, and only after the rupture of the capsule of the joint did he obtain relief.

Dr. S. Epstein said the diagnosis in the various types of sacro-iliac disease deserved at-

tention. He thought if more cases of sciatica were strapped from anterior spine to anterior spine, physicians would not have so much trouble and the cases would not be so protracted. The little support it gives is very gratifying to the patient. He had a patient—a boy—whom he had shown at another society, who had arthritis deformans in the spine, in the hips and some in the fingers. The signs over the sacro-iliac joint are palpable bony excrescences. It is the peculiar outgrowth around the margin of any joint that will be found in arthritis deformans. The sign Dr. Albee had mentioned the speaker said was always to be found. If the maneuvering is tried that is required for Kernig's sign, one will always get pain in the sacro-iliac region. Dr. Epstein had very rarely found grating in the sacro-iliac joint in synovitis.

He had found the effect of strapping to always be immediate and striking. The author had mentioned the effects of traumatism. The speaker remembered one case he had been watching for a month. The patient had been treated for synovitis and had done very poorly in a plaster-of-paris packet. While not yet well, the prognosis was good. Another patient had gotten well in five weeks by strapping. The simplest cases of the type were the ones seen in pregnant women. About the third month there is pain in the sacro-iliac joint. By painting iodine over the joint, strapping and giving rest, they will get well promptly. Sacro-iliac synovitis was a disease, the speaker thought, that should be looked for rather oftener.

Dr. Stromski said that sometimes the sacro-iliac joint could be strapped and a counter-irritant put on, and the patient would feel no pain. This was especially true of the traumatic variety as there was not only an inflammation, but a dislocation of the back of the sacrum. Dr. Goldberg had described ten cases like the above. The speaker had had a couple of cases. He thought this point an important one.

4. *Remarks on the Treatment of Trigeminal Neuralgia by Alcohol Injections.*

by Dr. Wm. Leszynsky.

The speaker said that during the last few years the treatment of intractable cases of trigeminal neuralgia had been completely revolutionized through the introduction of the injection of alcohol into or in the neighborhood of the foramina of exit of the various nerve branches.

About ten years ago, Schlösser of Munich was the first to practice this method. He inserts a long hollow into the foramen ovale by an intrabuccal course through the tissues over the superior maxilla, and with a shorter needle enters the peripheral foramina—supraorbital, infraorbital and inferior dental.

About four years ago, Lévy and Baudouin of Paris discovered that the second and third branches could be easily reached at their exit from the skull (the foramen rotundum at au-

average depth of five centimetres, and the foramen ovale at four centimetres) by introducing a long needle through the tissues of the face below the zygoma.

During the past two years I have followed the latter plan in conjunction with the peripheral injections of Schlösser in about twenty cases.

Before attempting this treatment, a preliminary anatomical study on the cadaver and skull is absolutely essential. Hence, there is very little likelihood that it will be undertaken indiscriminately. Besides, suitable cases are not of such common occurrence as to justify the general profession in spending their time in the study of the technique with the chance of a stray case. Sterilization of the instruments and skin is a *sine qua non*. The pain produced by the puncture of the needle is so much less than the excruciating pain that the patient is accustomed to suffer, that general or local anaesthesia is unnecessary. From two to three cubic centimetres of sterile alcohol varying from 70 to 90 per cent are injected. This may have to be repeated several times in the course of a few days or weeks, according to the reaction. No serious accidents have been recorded. This form of treatment is equal to surgical nerve resection without the resulting scar. Recurrence of pain may take place from four weeks to fourteen months. The treatment is then repeated.

Dr. Leszynsky then exhibited three patients who had been practically cured.

Case 1.—Woman 57 years of age. The third branch affected involving tongue. Duration two years. Twenty to forty paroxysms daily, induced by mastication, swallowing fluids or talking. Total number of injections, six. No attack in six months.

Case 2.—Man 33. Second branch. Duration two years. Numerous attacks daily, each paroxysm lasting from two minutes to a half hour. Two injections. No pain in six months.

Case 3.—Man 54. Second branch. Duration five years. Six injections. No pain for ten months. Then, recurrence. Treatment repeated. No pain in three months.

5. *The Present Aspect of Eclampsia, with Suggestions for Treatment.*

by Dr. Ross McPherson.
(To be published next month).

Dr. S. Marx, said in opening the discussion, it was a great pleasure to discuss a paper so replete with knowledge. He thought it so full of meat that there was nothing left to say.

The speaker thought the disease a disease of theory. There had been so many theories of eclampsia advanced that he hardly knew which theory or theories held good at the present day. He said the exciting cause was thought to be edema of the brain. The speaker had been one of the first to further the urea theory. He had written an article on the subject to show the correlation between urea diminution and eclampsia. A physician had sent to Dr. Marx his daughter for de-

livery; she was in the seventh month of pregnancy. He had told the physician that labor must be terminated because of a one-fourth per cent. urea diminution. This was refused. The patient had gone to full term and had been delivered without urea increase. Another patient—a young woman pregnant four months—had developed epileptic convulsions. Because the convulsions were getting worse, the speaker had advocated abortion. This was done, the woman had remained unconscious for two days and had developed a hemiplegia. Here the cause was an intense indicanuria. After heroic doses of castor oil her mind had become clearer. She had gotten well except for the hemiplegia.

Another case of a young woman who had had uncontrollable vomiting. 34 examinations had been made by experts and the urine pronounced normal. After four weeks' treatment, with cessation of vomit, she developed an anuria and died in 36 hours. Again they thought they had a clue to the situation.

The past summer the speaker had been called to see a woman out of town. The patient had vomited for three weeks. She had been brought to New York and fed by rectum for two weeks. The urine was pronounced to be absolutely normal. The vomiting was controlled by rectal alimentation. Then for the first time acetone appeared. At the present time the patient is reported to be walking around, and in the fourth month of pregnancy.

The speaker thought the infection caused intoxication which might rise from the bowels, liver or kidneys. As to the indications for interference, the speaker had a simple method in the presence of certain unknown symptoms. He believed any symptoms for which a cause could not be found should be looked on as toxemic. The urine should be examined every two or three days. He never looked to the laboratory to advise him when to or when not to induce labor. When he had patient with toxemia and several urinary symptoms, whether or not the laboratory findings were positive, he induced labor at once. If the patient be seen early—say during the first trimester, simple dilatation of the uterus and evacuation will do the whole business.

He believed vaginal Caesarean section to be limited. To his mind it was one of the most dangerous and unsatisfactory operations physicians had to deal with. The indications for it were very rarely present, he thought, and more rarely were they present for Caesarean section. With most patients, if the case were watched there would be no such great urgency but that a bougee could be used. To do a vaginal section one should have two or three assistants. In resuming, he wished to quote from a chapter he had just finished.

"As in medicine, so in obstetrics, the occurrence of albumin alone or associated with casts is no longer the bugbear it formerly was, since we know that this does not of necessity mean that there exists an inflammatory lesion of the kidneys, normal in every particular, that is to say normal as regards circulation

and innervation, does not excrete albumin, and, therefore, the occurrence of a so-called physiological albuminuria is open to question. It is to be remembered, however, that in any individual, after ingestion of food, transient albumin and transient casts may appear. On the other hand, slight disturbances in innervation or in circulation may cause the kidney to pass variable amounts of albumin, perhaps with, perhaps without, casts, and this indicates disturbed function and not necessarily inflammation. The fact is that recent investigation has shown that fully 50 per cent. of pregnant women possess albumin in the urine at variable intervals during pregnancy. While, therefore, we would not minimize the necessity of examining for albumin and casts, we desire to emphasize the greater necessity of estimating kidney sufficiency, urea, and, where symptoms suggest, acetone and indican. If neither albumin nor casts are present, if the total amount of urine passed in the twenty-four hours be within normal limits, taking into account the quality and the quantity of food ingested, we are secure in deeming the woman safe so far as toxemia of renal origin is concerned. But should the conditions be reversed, then examination should be instituted for free acids and acetone and indican. The general practitioner, who pays heed to these directions, may rest satisfied that he has done his full duty so far as the limitations of his laboratory permit. Other detailed examinations must be reserved for hospital clinics or be resorted to in large centers where experts in urinalysis abound.

So far, then, we have determined that urinalysis enables us to certify as to the presence of toxemia of kidney origin, and incidentally calls attention to the presence or absence of toxemia of hepatic and intestinal origin. The symptomatology of kidney toxemia has been dwelt upon and that of hepatic origin, when extreme, becomes simply that characteristic of acute yellow atrophy. Post-mortem the same lesions are found, and it is an open question whether in the pernicious vomiting of pregnancy, of an aggravated type, we are not really dealing with such changes in the liver, plus kidney changes, plus intestinal fermentative factors—in short, a mixed toxemia. These are hypothetical questions which physiological chemistry will determine for us."

Dr. Ladinski said he had the advantage of Dr. Marx, inasmuch as he had the pleasure of discussing two papers which were absolutely replete with theoretical ideas and practical facts. He agreed with both the gentlemen regarding the stand they took concerning the operation of vaginal Caesarean section. He had stated his position in regard to vaginal section a year ago, before the Society, and was glad he had the testimony of two operators of such wide experience as his colleagues present at the meetings.

The subject had been thoroughly gone over, he said, and he had nothing to add, except to refer to various clinical manifestations of the toxemia of pregnancy as bearing on the prognosis. When the degenerative

changes involve the kidneys, emptying of the uterus often gives the woman the best chance for life; whereas, if the disease involves the liver or spleen or other organs, emptying of the uterus is not followed by the same gratifying result.

He had had several such cases in his service at Beth Israel Hospital, in which the induction of labor did not appear to have the slightest effect on the progress of the disease, and the women died. However, in induction of labor in several of his patients, where the toxemia had affected principally the kidneys, a cure followed the emptying of the uterus in spite of the fact that the patients had had retinitis albuminuria and were totally blind for weeks and months, having had eclamptic seizures after delivery.

As regarded the indications for Caesarean section, the speaker said he was very decided in his preference for abdominal Caesarean section over the vaginal, when section was indicated. Last year he had reported a case where abdominal Caesarean section had been done because of eclampsia. The patient had made a splendid recovery. The advocates of vaginal Caesarean section admit that the operation is best indicated in the early months of pregnancy. It seemed to the speaker, he said, that forcible dilatation and incision of the cervix were by far the easiest and safest methods to induce labor in the early stages.

Speaking of drugs, he had failed to hear any mention of nitroglycerin. He himself was an advocate of nitroglycerin as a vasomotor dilator in such cases.

In closing the discussion Dr. McPherson said he had a patient under his care at the present time whom, had she been treated according to the results of the nitrogen partition, ought to be very ill, or dying. On the contrary, as a matter of fact, she was doing very well, and had practically recovered. He thought it of a certain amount of value but as an indicator only. It should not be depended on to the extent of biasing one's judgment of the clinical symptoms.

The speaker said he always used nitroglycerin and regarded it of great value. Concerning the abdominal Caesarean section in this condition, he had had three—two of them had been done for deformed pelvis in conjunction with the convulsive toxemia; the third purely for eclampsia. All had recovered. He thought there was distinct indication for the operation at times, as there were certain cases where an enormous amount of damage could be done by hasty delivery by the natural methods. He agreed with Dr. Marx in saying that vaginal Caesarean section was an operation for early pregnancy.

In fractures of the fingers, if there is any difficulty in holding the fragments in place in an extended position, it is often good practice to flex them over a pad of cotton.

American Medicine

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PUBLISHED MONTHLY BY THE AMERICAN-MEDICAL PUBLISHING COMPANY.

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Complete Series, Vol. XV., No. 11.
New Series, Vol. IV, No. 11.

NOVEMBER, 1909.

\$1.00 Yearly
In Advance.

Prolonging the lives of the insured is the inevitable outcome of the modern crusade for improving public health. The new movement is primarily a business proposition, but we should have no quarrel with that, as it is the rule for dollars to take precedence over health. European insurance companies have long been acting upon the plan of curing their sickened policy holders, so that the lessened death rate would reduce the premiums. It was not the intention to make more money, indeed that would be impossible for the costs are accurately graded according to the mortality. The increased expectancy of life merely creates business by bringing more insurance within the means of the insured and giving insurance to those who formerly could not afford it. The ultimate result is prolongation of life, though as a matter of fact, those who insure their lives are a special class of far sighted men, who naturally take care of themselves and who really do live longer than the uninsured. Yet this personal care is found insufficient from the fact that no layman can keep pace with the discoveries as to the causes of disease and therefore he exposes himself to avoidable dangers long after it is known how to escape them. He must be taught how to keep himself in health. Curing the sick also enters into the new plans though only secondarily, as men with sufficient forethought to insure themselves, generally employ skilled advice when sick. The real crusade is to prevent the sickness.

The methods of preserving the health of the insured intimately concern the medical profession as a body since physicians must be employed and that is another step towards transferring a part of the profession to the great and increasing body of men occupied in preventing disease. There is already an enormous change from the time when we were all engaged in curing what might have been prevented, and we can confidently predict still more marvelous changes. Insurance companies are proposing to hire diagnosticians who will make periodical examinations of all policy holders, and this will necessitate the organization of a staff of specialists for consultation in obscure conditions found. Upon the discovery of remediable disease, the patient will have the choice of accepting treatment at reasonable rates or, what is far more likely, he will consult his family physician. Should the new system succeed in reducing mortality rates, a new schedule of cheaper premiums will promptly follow, and then it will be necessary to incorporate a clause in the policy insisting that the holder when sick shall take appropriate treatment, with the penalty of a reduction of the death benefit should he fail to comply. Moreover the employment of quacks or a resort to Christian Science or osteopathy will necessarily be interpreted as a failure to take scientific treatment—even the old style homeopathy now disappearing may be barred. Certainly no court would

compel full payment if the contract distinctly states that a reduced rate is made because the party of the second part contracts to do certain things to keep alive. If a man knows that in case of his death while following false medical gods, his family will have less income, he will give pause. Perhaps we can foresee a substantial reduction of quackery.

The new specialty of attending the healthy has been long proposed and seems now on the point of realization through the action of the insurance companies. Already certain men have taken up the custom of employing a physician by the year and it is to his interest to prevent as much sickness as possible, even if his moral sense did not compel him to do his best. The old Chinese custom of paying the family physician as long as everyone was well, and suspending his salary when anyone was sick, was a necessity in a land where life has little value and morality is not what we have evolved. Medical practice in occidental countries is based on a remarkably high sense of honor and altruistic devotion to duty on the part of physicians. There is then no reason why it would not be profitable on both sides, for a man to be examined several times a year for a certificate of health, and to get advice should the keen eye of the experienced diagnostician detect a beginning trouble. We would hear of fewer breakdowns and deaths of business men in the prime of life—worn out through chasing the dollar. There is the danger of making men think too much of their condition, but as a matter of fact, one of the symptoms of health is the way we ignore it, and only the neurasthenics give undue heed to their symptoms. Besides, men are too busy to give it a thought after

the examination is over and would perhaps have to be prodded to get them to the doctor's office when the time comes. There is no doubt that the new specialty will employ more physicians in preventing disease and give less work to those who cure the preventable.

The price of milk is disturbing a good many New York people as a result of the sensational statements that have been made by some of the New York newspapers. Keen to secure topics for discussion that will touch the people in that always tender spot—the pocketbook—a few of the press have pounced on the increased price of bottled milk, with great gusto. Professing to see the iniquitous greed of a "trust" in the situation, the ravings and hysterical shrieks of the protesting papers are liable to mislead a good many fair-minded people and completely obscure certain highly important phases of the milk question that are infinitely more momentous than any arbitrary price.

We hold no brief for any "milk trust"—if such exists—and if the large and obviously influential companies who supply milk to New York City have been guilty of violating the laws in any way we hope that they will be apprehended and punished.

But an increase of the retail price of bottled milk from eight to nine cents, serious as it will be to certain classes, does not of itself constitute an offence, and before raising the hue and cry of criminality every honest, fair-minded person will carefully consider every detail involved in the proposition.

For a good many years the medical profession have been calling attention to the dangers of bad milk, urging the necessity

of using not only milk produced from healthy animals, but milk that was also properly handled and delivered to the consumer. In spite of the earnest efforts of the profession to stir the people to a realization of the dangers of bad milk, many years went by and little was accomplished. In New York City the health authorities tried their best to raise the standards, but manifestly with the sale of milk from hundreds and thousands of sources and by thousands of dealers, little could be done. Moreover, the people themselves were indifferent, even when their babies died. If the doctor blamed the milk, they looked on his statement as an excuse rather than the truth. Conditions grew worse instead of better, until medical men were forced to urge pasteurization as a means of partial relief. Mothers who could be influenced were induced to use pasteurized milk and the benefits obtained emphasized anew the evils of raw milk from unknown or uncontrolled sources. But a considerable proportion of the children fed on pasteurized milk did poorly and it was soon seen that heating, while serviceable for destroying bacteria, also so destroyed the enzymes and changed the milk in other ways that it lost much of its food value. Raw milk had to be returned to, and the "slaughter of the innocents" went on, until one day somebody saw that it would be good business to supply a higher grade of milk—richer in quality, cleaner, and kept so in sealed bottles. The idea took at once, for a certain proportion of the people realized the importance of pure milk and were willing to pay for the reasonable surety that they were getting it. Soon more people awoke to the fact that there were different kinds of milk and the firms making a specialty of the better grades took pains to

emphasize the advantage of the kind they were supplying. Thus the attainment of pure milk in New York can truthfully be said to have been the direct result of commercial enterprise. The firms who pushed the idea of clean high grade milk, gradually drove the poor milk from the market. Consolidations, combinations, and business deals galore, unquestionably took place, and probably many a small dealer was absorbed or annihilated. But clean, pure, high grade milk was the aim throughout and now when we stop and realize that the people of New York City enjoy better milk and more of it than any other large city on earth—it would seem that the public have received a pretty substantial share of the benefit after all.

Pure, clean milk is no longer a matter of business expediency—it is a matter of law. With the development of clean milk for commercial purposes the health authorities saw their duties. The large firms who could supply clean milk and wanted the demand to grow, welcomed the activity of the health department, and it is a matter of record that the large milk vendors have not only always co-operated with the government officials, but have nearly always established and enforced regulations that are much more strict and far reaching. Details that the consumer never knows of are matters of every day routine in the production, handling and protection of modern milk. The care of the cows, their housing, feeding, the water given them to drink, the milking, preparation for milking by the farm hands, the milk pails, their methods of being cleaned, the cooling of the milk, its protection, then the shipping, etc., all these are carefully regulated and supervised. Then comes bottling, with attention to the

sterilization of the apparatus used, the bottles, caps, etc.; then more cooling and final delivery to the dealer or customer. The above is by no means a complete skeleton of the elaborate system that is employed to supply the people of New York City and other large towns with rich, pure, clean milk. There is much more detail but what we have given will indicate the vast difference between methods employed a few years ago, and those in force today. The statement is often made that in spite of the increased sale price, the farmer or actual producer gets a very small part of the advance. This may or may not be true. If one will take the bother to follow milk from the farm to the consumer in New York City, it will be apparent that to-day the most elaborate and painstaking details of the transit of milk from cow to consumer, are involved in the protection of the milk from internal and external contamination. It is agreed that milk may come from the best cows, the milking process may be as aseptic as a surgical operation, and yet carelessness in cooling, undue exposure to contaminated air or faulty handling in the bottling department may render it unfit as a food. The proper handling of pure milk is therefore, the all important question that must be worked out, before the point of relative freedom from bacteria is reached, that may be said to represent absolute safety. The attainment of this condition is a matter of detail which obviously must increase the cost. The consumer as he has realized the desirability of clean milk, has set his standards higher and higher. The large milk handlers have not only met these standards but they have anticipated them in many instances. Prices have gone up and they will continue until final or absolute standards are established.

Milk as produced and protected today, is necessarily expensive. The process, if effective, must be costly, and while a certain hardship is worked on the poor man there is compensation in the fact that his children keep healthier and his babies seldom die from milk infection.

Nine cents a quart for milk seems high. It is high. But if that milk is as rich, pure and clean as the marketing firms claim, it is not *too* high, for it represents tangible degrees of safety and protection, in addition to quality.

In conclusion we reiterate that we are not pleading the cause of any of the milk vendors of New York City. The subject of pure, clean, high grade milk is, however, immensely important to us, for we know what it means to the people and little children. We would like to see it sold at the lowest possible price consistent with the highest quality, purity and cleanliness. But if it is necessary to charge nine, ten or even more cents to get the kind of milk that will protect our babies and invalids—never mind the price—quality, purity and cleanliness must come first.

So we say, and we think every medical man who realizes the importance of the milk problem will join us, price is a secondary matter. We must expect to pay for the quality and protection we demand, but when we do pay let us be very sure that we get what we are paying for.

The Health Commissioner of New York City is one of the most important appointments that Mayor Gaynor has to make. Consideration of the really great power attached to the office, the relation which its incumbent bears to every man, woman and child in this enormous city of four million

souls, and the magnitude of the sanitary and hygienic problems constantly being presented, will convince even those who are inclined to discount the importance of public health systems, that in New York City at least, the position requires a medical man of the highest administrative as well as scientific ability. From what we know and have reason to expect from Judge Gaynor, he will be influenced by no other consideration in selecting his Commissioner of Health than the desire to secure the very best man for the position. In this respect the people of New York City were probably never safer than they are with the incoming administration.

With these important facts before us and our earnest belief that the question is entirely one of efficiency and adaptability we sincerely hope that Mayor Gaynor will give the most serious thought to reappointing Dr. Darlington. We believe we voice a widespread sentiment when we say that few public officials are more highly esteemed and respected by his associates and the people at large than Dr. Darlington. Under his administration the New York City Health Department has been placed on the highest plane of efficiency in its history. Although more or less handicapped at times by lack of funds, Dr. Darlington has worked steadily to achieve definite results and what he has accomplished speaks for itself. Without the slightest exaggeration, it can be said truthfully that the New York City Health Department is the most efficient in the world—and that in spite of being next to the largest city and being blessed—or cursed—with the most heterogeneous and difficult population that ever existed. During Dr. Darlington's administration New York City has attained the lowest death rate ever recorded, a death

rate that places the metropolis in the front rank of safe places in which to live. The New York City methods of inspection, registration of disease, and the systems of sanitary regulation have become the model for health authorities the world over and wherever health matters are on an organized or legal basis, our Department of Health is looked upon as a shining example of what can be achieved by wise laws and capable officials.

With all that Dr. Darlington has done to make New York City one of the healthiest cities—if not *the* healthiest city on the face of the globe, it should be constantly remembered that he has at no time surrounded us with irksome restrictions or regulations. Doubtless certain classes have had their habits and manners of living changed very materially. But the average citizen has found nothing but common sense and the elaboration of common decency in the health laws that have made New York City so wholesome and safe a place in which to live.

Dr. Darlington is not a sanitary crank.

He is, instead, a broad, capable physician, well versed in everything pertaining to his profession, and possessed of a remarkable administrative talent. The combination is a rare one, and when once found it should be kept in the harness as long as possible. Dr. Darlington has been fortunate in the assistance and cooperation he has had from such men as Drs. Walter BenseL and H. M. Biggs, but this only adds to the credit that is so deservedly his for the quality of his broad, unselfish leadership.

Throughout the tenure of his office, Dr. Darlington has never sought the limelight. No public official in so important a position was ever less conspicuous. Steadfastly and fearlessly he has done his work—a work so

big and far reaching in its results that few will ever grasp its true significance until long after he has gone. The whole local profession have known the obstacles he has had to meet and conquer, and almost without exception he has had the good will and support of his colleagues. New York physicians appreciate what Dr. Darlington has done and they are proud of the way he has shown what good, sound health regulations will do when strongly and sensibly enforced.

In the highest interests of a splendid city, the truest welfare of every New York citizen, and for the aid that will be given to the promotion of safe and sane health laws the world over, we venture to hope again that Mayor Gaynor will seek to retain Dr. Darlington at the head of the Department of Health. The man who has made New York City healthier and freer from disease than many a health resort, is too valuable to return to private life, for the people need him.

The question of vaccination is always before us. It is morally certain that a few perfectly sincere but none the less misguided people will always condemn this procedure, no matter how well proven the fact may be that through its agency small pox has been conquered for all time. The processes of reasoning that must take place to allow a person to deny in good faith the overwhelming evidence that exists concerning the true prophylactic value of vaccination, can never be understood by the normal thinker. Such perversion of ordinary deductive logic is incomprehensible. But it exists, just as the ridiculous beliefs of Christian Science exist, and must be accepted in the same way as nothing else but deplorable and in some respects pitiable vagaries of the human mind.

The agitation as regards vaccination, senseless as it certainly is, has served one purpose, however, and that is to emphasize the essentially surgical character of the operation. Vaccine as now prepared and marketed is safeguarded in every possible way and the dangers of by-infections are entirely eliminated. But the occasional case of tetanus or other infection that is encountered and made so much of by the anti-vaccinationists carries its distinct lesson, and that is that the wound of vaccination cannot be neglected. To do so, is to court trouble. A goodly proportion of medical men realize this, and never undertake a vaccination without surrounding the operation with every aseptic precaution. The physicians who thus protect themselves and their patients never have any trouble, and the extremely sore arms of former and more lax days, are seldom seen. There are still doctors, however,—good doctors, too,—who pay little or no attention to the operation of vaccination. These are the men who have the tetanus cases and who supply the anti-vaccinationist with ammunition. That invariably the virus, as supplied by recognized manufacturers, is shown to be innocent, while the method of use is proven culpable, does not modify the situation in the eyes of the prejudiced. The whole proposition suffers and all the explanations in the world cannot remove the onus.

Vaccination is a surgical operation and the medical man who fails to use every aseptic precaution when performing it is not only jeopardizing the welfare of the patient, but also the interests of society. Every accident following vaccination while regrettable for its immediate effects, is infinitely more so for the unwarranted fears

and prejudices it creates in the minds of those who see only the general result.

In no way can medical men do more to advance the practice of vaccination and overcome the objections of the anti-vaccinationers than to give the utmost care to the selection of the virus and its method of application. The most painstaking asepsis at the operation is not enough, but the resulting wound must be carefully protected against the possibility of subsequent infection. It is here that the principal danger lies and practically every case of tetanus or other serious infection has been traced to post-operative infection from careless after treatment. The patient should be told the exact situation and urged to present himself on the third day and for several days following until everything is satisfactory. When the reaction is severe and the wound becomes badly inflamed it should be treated as every other wound would be treated. To neglect a vaccination wound on the grounds that it will take care of itself, is a grave mistake and nothing that we know of the course followed by such wounds ever justifies such treatment. The day of the cut rate vaccination is over and no physician should undertake the operation unless the patient is willing to consider it on the basis its importance warrants. A price based on the service required should be insisted upon. Perhaps if the laity can be shown the protection and safety offered by such a system, as well as the grave results liable to follow a less sensible course, the growing habit of lay vaccination will be stopped before greater harm is done. Those who recognize the threatening evils will hardly deny that the subject deserves the most thoughtful consideration and thus

excuse the space we have given to a somewhat hackneyed subject.

The recrudescence of witchcraft, as shown in the exposures attending the current scandal in "Christian Science" circles, will be amusing or astounding according to the point of view. The unfolding of the whole miserable imbroglio, sordid and disgraceful as certain phases of it must appear to every intelligent person, only serves to substantiate the opinions expressed in our last month's issue. "Christian Science" is an absurd misnomer, for its teachings are as far removed from christianity as they are from science. Conceived in the disordered brain of a woman who is known to have been neurotic and more or less mentally "queer," the tenets of this woman-made religion are no less ridiculous than the incomprehensible beliefs of Salem days. As a matter of fact there is such a close similarity between the teachings of "Christian Science" and certain fanatical superstitions of our country's early history, that it is absolute inconceivable how any one of ordinary intelligence can become a Christian Scientist. That so many people have espoused the cause of this fanatical cult, proves that human mentality has not progressed to the extent many of us have thought, or else there are many more people susceptible to the blandishments of religious sophistication than is generally known. The condition from any standpoint is disappointing. The vaunted increase in human intellectuality that has made us so proud of our time and epoch is largely mythical. Collectively the people of today are only a step if at all removed from the state of deficient mentality that characterized the

people of centuries back. Individuals have grown, and the progress that has been made in many fields of activity shows the growth of individual minds. But the masses—humanity in the aggregate—have progressed so little in thinking capacity that the average mind has not been able to free itself from the thralldom of superstition, mysticism and false gods.

Any one who doubts the mental limitations of the Christian Scientists needs but to question them. The outcropping of superstition, fear and misinformation will tell the sad story all too plainly. The spectacle is a sad one, for back of it all lies potent possibilities for psychic harm that bode little but ill for the mental stability of unborn generations.

The psychology of sudden religious conversion was explained by Dr. Morton Prince of Boston several years ago in a paper read before the American Psychological Association, (*The Jour. of Abnormal Psychology*, Apr., 1906) and it would seem profitable to apply his methods to the explanation of a similar contemporary phenomenon—sudden conversions to Eddyism and other mystic healing cults under the influence of powerful suggestions. Modern psychology explains many historical incidents which theologians formerly ascribed to supernatural agencies, and entirely removes the suspicion of fraud from neuropaths who were as thoroughly convinced of the reality of their hallucinations as St. Paul was as to what he saw in his famous psychic attack. There seems to be no hope of preventing these abnormal phenomena, so that false ideas seem to be a permanent feature of civilization. The only thing we can do is to wait patiently for

them to fade and they always disappear in time. Many former devotees of Eddyism have recovered from the obsessing idea and now cast ridicule upon what at one time they considered very real and tangible. In the meantime we must protect the neurotic from the consequences of their own acts.

The "Death Treatment" as described by devotees of "Christian Science" is apparently only a new name for the voodoo and the spell of witchcraft as practiced and believed by less fashionable cults. The newspapers have very recently had an elaborate description of the "death treatment" as received by a woman who had supposedly gained the ill will of the leader of one of the largest "Christian Science" Churches. If the description is accurate, the "treatment" was administered with practiced skill, for it would have accomplished its supposedly dire purpose in the dead of night, but for the assiduous application of the supposed victim to a difficult piece of darning and the constant repetition of the patent formula "God is good." The description of the "treatment" by the supposed victim has excited much interest, especially among the "Christian Science" practitioners. Evidently these "treatments" are not as distinct or well defined in their major characteristics as the recipient is inclined to think, for at least one practitioner professes to recognize the "treatment" in question as an "over dose of good!" The practitioner who thus identifies the "treatment" that came so close to resulting fatally, does not mention the kind of "good" but we assume that it was of the common or garden variety. Evidently it was carelessly compounded, or it may have suffered substitution. At any rate to have nothing but

an "over dose of good" give rise to such profound systemic disturbance as described is suspicious. Can our pseudo-sapient colleague be wrong, or did the serious phenomena attending the "treatment" simply indicate the dangerous character of the so-called "good" administered by the Christian Scientists?

Now, in "treating for gold," with a certain leader "getting the treatment," overdoses were never serious as long as the "gold disease" progressed. The leader in question is reported as having had many acute exacerbations, with "treatment" more or less effective. It rather looks as though this was the homeopathic principle of *similia, similibus curantur*, made wonderfully practical.

As a matter of fact, however, what a mass of rot is exposed as soon as a little light is turned on the "Christian Science" proposition! If it was less serious it would be ludicrous, but the danger to weak and immature minds should not be discounted. Many have looked on the Eddyites as nothing but cranks, innocent, ignorant and harmless. Such a view is too charitable, for late developments can leave no doubt that the teachings are doing an infinite amount of harm to the neurotic and impressionable women of the country. Medical men, who realize the menace of psychic instability to every phase of modern life are false to every trust if they fail to show the essential evils of "Christian Science" at every opportunity.

The coming revision of the United States Pharmacopeia offers opportunities more favorable than ever before for the accomplishment of needed reforms. As Sollmann says in a recent article (*Jour. A. M. A.*, Nov. 6, 1909) the Pharmacopeia,

as it now stands, is a fairly representative standard of modern pharmacy, but seriously lacking as a standard of the best in pharmaco-therapeutics. This is not surprising, since the pharmacists have long controlled the situation and the medical profession have had comparatively little influence of a practical character. The occasion is close at hand, however, when the voice of the medical profession can be heard and if the interest is sufficiently live and real, this great book can be made of the utmost practical utility to every student and practitioner of medicine. In the past the spirit of fault finding has been foremost; from now on let the spirit of medical co-operation and constructive effort make its influence felt—especially since it is possible in ways that may not be presented again for many years.

Sollman offers a number of trenchant suggestions that in the main are admirable. Many who have given any attention to the proposition may differ with him in some respects, but the opinions or suggestions of any man who has studied the subject as carefully and intelligently as Sollman has, deserve the most thoughtful consideration. He may expect more of the Pharmacopeia than it can ever accomplish; probably many of us do. But it is infinitely better to look at the prospects this way, than to make the more serious mistake of discounting any possible usefulness. The former will get results, the latter will get nothing. The writer, however, does believe that a common mistake is being made by Sollman as well as many others and that is, in expecting the Pharmacopeia, as a result of the forthcoming or any other revision, to become a working manual of therapeutics. This is impossible. Drug therapeutics are too diverse, and in Amer-

ica vary too much with schools, men and localities. Even in a given locality, the variety of drugs used is sometimes amazing. Who is qualified to pass upon the therapeutic opinions of this vast country with fairness to even a majority of the 140,000 physicians? Can a body of pharmacists, chemists or pharmacologists? Can men, however skilled in laboratory and research work who have no broad clinical or bedside experience? Assuredly not, and even if the whole selection and rejection of drugs was done by men possessing every scientific and practical qualification, the result would still be arbitrary and unsatisfactory to many. No, drug medication can never be placed on an official basis. The difficulties are insurmountable, and it may be well that it is so. Since the attainment of official standards of drug therapy can be only partially achieved, at the present time at least, and the half results will complicate rather than solve the therapeutic problem, how much better it will be to undertake what can unquestionably be accomplished with every certainty of a magnificent success!

The true place of the United States Pharmacopeia is as the National standard of the quality, nomenclature, preparations, sources, composition, solubility, assay, dosage and physiologic action of drugs. The information necessary to establish such standards can be obtained with almost absolute accuracy. The future progress of therapeutics must be based on such definite knowledge. That drug treatment is so complex, indefinite and unsatisfactory is due entirely to the present lack of dependable pharmacologic data. The evils that exist have likewise been produced

from this same cause. The pharmacologists and pharmaco-therapeutists have been waking up, but the work that still remains is colossal. It seems to us that the Pharmacopeia can stimulate such work, but only when we readjust our values and realize that its practical, legal or any other usefulness can come only to the extent that it is made a complete, accurate and authoritative reference of materia medica.

The foregoing remarks are far from being complete or conclusive. They do represent certain honest convictions that deserve expression, if for no other than their controversial value. The medical profession have been remiss in this direction, and if this great question of our National Pharmacopeia had been discussed more freely during the last decade there would be today a great many more physicians competent to give some tangible aid in this hour of need.

Arrested mental development due to starvation is not a new idea but has been put in a new light by the case of a boy of sixteen described by C. Homer Bean in *The Psychological Clinic* of May 15, 1909. During the first six years of life the patient was so starved by improper food that development was practically arrested, but by a restoration of a proper diet and a country life, there was a return to health. Growth began again but it was subsequently found that though he was physically as other boys, his mind was so defective in many ways as to leave no doubt that the brain had suffered an irretrievable loss. It has been generally assumed that minor arrests of growth in childhood, from illness or malnutrition, resulted in no permanent damage, and that the organism subsequently

resumed the normal course of development, but this extreme case raises a suspicion that any interference with development causes a permanent loss. If this be true all the self limited diseases of childhood are much more serious than we have been in the habit of thinking. It is well known that in fevers there is more or less arrest of growth, as seen in the finger nails and hair during typhoid, and in childhood there must be a cessation of development of all tissues; the possibility of the lost time never being made up is somewhat appalling. Perhaps it fully explains the fact that underfed slum babies do not grow into mentally vigorous adults even though rescued and fed properly. They may have suffered an irretrievable loss. It certainly is high time to decide whether a man who cannot feed his babies properly is not creating burdens for future society and to that extent is a public enemy.

The need of prompt relief of infants is the lesson to be derived from these new studies, and if the fathers are inefficient and must be permitted to reproduce their kind, the only thing to do is to care for their babies for them to prevent greater troubles later. Of course it would be better in the long run to copy nature and let the least efficient die, but such neglect is too repugnant to cultured minds to be tolerated. The plan of civilization seems not to be the improvement of the species by the survival of only the best, but to make each unit as efficient as possible. The uniformity of savages is being replaced by the infinity of civilization. It now takes all kinds of men to make a world, whereas once there was but one kind in each social organism. No matter what the result may be, each infant can be made to grow into something useful in-

stead of being a social burden if its inefficient parents reared it. This is a step nearer socialism, and we are taking these steps every little while. The good is more than the evil. We therefore strongly commend the Speedwell Society, so appropriately named, which supervises the placing of sick babies in country families, under the supervision of physicians and trained nurses. As described by Dr. Henry Dwight Chapin, in *The Survey*, the results are so excellent as to leave no doubt as to the necessity for a greater extension of the system by the creation of branch societies in other places. The problem is what to do with the scoundrelly parents who bring babies into the world for others to care for. Are we to breed up a parasitic type of humanity unable to rear its young—a type but little above the prize dogs unable to rear their own puppies? Speedwell Societies, though tending to this, are the lesser of two evils, and must be commended until preventive means are discovered so that there will be no babies which the parents themselves cannot rear.

The birth rate still continues to give a lot of unnecessary worry to those good souls who are in mortal dread that the race is doomed to extinction unless we have floods of babies. The Germans prided themselves on their huge birth rate some years ago, though they carefully concealed the fact that the average father could not support more than three at home, and that the rest had to work or emigrate. Now that emigration is checked and there are scores of thousands unable to get work, there is another face to the matter. Germans are wondering whether they were right in bringing so many babies into the world, and many have decided it was wrong

to increase distress and the struggle for existence. So we find that German births are diminishing at an enormous rate. The nation is repeating what the thrifty French started long ago, but curiously enough, the increase of property in France has so reduced the struggle for existence, that more babies can be reared, and the birth rates are increasing about as much as the German are decreasing. In other words the birth rate is intensely sensitive to changes in economic conditions, and no one need worry over it. Enough babies are born in all conscience when there is a body of unemployed clamoring for food, and entirely too many are born to parents unable to rear them without the aid of Speedwell Societies.

The normal death rate and birth rate depend upon the average length of life. If a population does not change in numbers and has neither immigration nor emigration, the births equal the deaths which must be 25 per thousand yearly if the people average 40 years of life. If fewer die or more are born, it means an increase of population, and the rates therefore must vary enormously in different conditions. There are some rapidly growing cities with very small death rates, but it must be recognized that the tremendous increases of the past are about over, and that cities must in time reach a period when further increases are very small or impossible. The death rates normal to the city must then increase if the birth rates increase, but the chances are that they will both decline together. The wonderful reduction of death rates by modern sanitation thus has the remote effect of checking the birth rate. In addition, people are not preserved forever, their lives are merely lengthened. They must die sometime. Sanitarians must therefore expect an increase of the death rate in time, for that is the normal. How much

below 25 per thousand it will be, will depend upon the average length of life. If every baby born lived to 100, then there would be 10 old people die each year for every 1000 population, and 10 babies would be born to replace them. The reduction of the birth rate is therefore an entirely natural phenomenon, about which many useless articles have been published. Nature will preserve the species without any more aid than given to her in the past. It is the height of the ridiculous to stimulate the birth rate, then raise the babies for the parents, and organize more societies to feed those unable to find work.

The drunkard's wife is now being blamed for his condition. Experts have given about every other cause under the sun, to account for this blot upon every race or civilization which ever existed, but it was left to the Chicago saloon keepers to make this ungracious suggestion, that it was her nagging and her bad housekeeping and her general unpleasantness which drove her spouse to the consolation of the neighboring bar, with its cordiality or fisticuffs as best suited him in his cups. Since the days of "Ten Nights in a Bar Room," the opposite picture has always been given of the long-suffering, down-trodden, meek and forgiving wife who would do anything to keep the man sober. It seems too bad to spoil this picture and substitute a woman armed with a rolling-pin and flat-iron to welcome her husband to a happy home. But we must expect everything and anything in the present discussion of the etiology of alcohol and alcoholism which, from the opposing opinions of medical men, seem to be understood by few if any. We would suggest a convention of drunkards' wives, with preambles, whereases and resolves. It would shed some light on the matter and be about as valuable scientifically as most of the "medical" opinions foisted on the public.

ORIGINAL ARTICLES.

THE PRESENT ASPECT OF ECLAMPSIA, WITH SUGGESTIONS FOR TREATMENT.¹

BY

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In presenting this paper it is my purpose to consider the condition known as eclampsia from both the pathological and clinical viewpoints, and to offer to you certain suggestions for its treatment which have proved efficacious in the conduct of a very large number of cases of this extremely troublesome and fatal complication of pregnancy.

The disease takes its name from a symptom, the convulsions, and is better spoken of as "toxemia of the convulsive type," since there are several forms of toxemia occurring during the pregnant state, some of which are not characterized by convulsions but are otherwise practically the same as eclampsia. On this account some observers have spoken of "eclampsia without convulsions," which when we consider the derivation of the word means "convulsions without convulsions," is to say the least a rather paradoxical designation.

We find these convulsive toxemias occurring most frequently in February and March, and least frequently in December and January; it is estimated that the condition is encountered about once in every thousand cases of confinement in private practice, and is nearly twice as common in primiparae as in multiparae. It most often occurs ante-partum and no age of the child-bearing period seems to be ex-

empt, although it is seen most frequently between the ages of twenty-one and twenty-five. These and the following figures throughout the paper are computed from two hundred and ninety-three cases of convulsive toxemia occurring in 61,151 cases in the service of the Lying-In Hospital, and reported by the writer in an article read before the Section in Obstetrics of the American Medical Association at the meeting held at Atlantic City in June, 1909.

The symptoms of the condition are familiar to you all, and as my time is limited, I shall not consider them in detail. I desire, however, to take up the pathological side of the question very carefully, in order that we may see the bearing which it has on the treatment.

Pathology. For many years the disease was thought to be of renal origin, and as such was considered an uremia. More careful and extended observation, however, has shown that the kidney involvement is entirely secondary, as evinced by the fact that we frequently see cases in which, although typical in every other respect, clinically the kidney is not involved, or not until late.

The typical lesions found are those of a degeneration of the parenchymatous organs, notably the liver, followed by the kidney, less commonly by the spleen and pancreas; this takes the form of an albuminous change known as cloudy swelling, passing on to fatty degeneration early in the disease, and later in the more aggravated forms extending to all the tissues. In the other toxemias of the non-convulsive type, we find zonal necroses in the liver lobules. These necroses have been described by Schmorl of Germany, and Williams in this country. In eclampsia, on the contrary, we usually find extensive hemorrhages in and

¹ Read before the Eastern Medical Society of the City of New York, Oct. 11, 1909.

about the portal spaces, with very little zonal necrosis. The hemorrhages are general in character, usually being especially marked in the brain, about the corpus striatum and pons, rupturing into the fourth ventricle.

J. E. Welch of this city, pathologist to the Lying-In Hospital, explains these hemorrhages by suggesting that there is circulating in the blood a poison which causes agglutination of the red cells, which then form emboli, and by the solution of the endothelium of the blood vessels allow easy means of escape of the blood. The blood pressure is always high, especially during the convulsions, a condition which increases the brain hemorrhages occurring in these young subjects who are usually free from arteriosclerosis. Welch believes that the poison causing the intoxication is probably an enzyme or combination of enzymes which attack the cells, and cause their destruction, the process being known as autolysis; this statement is particularly applicable to the liver.

Concerning the immediate sources of the poison, they are regarded as four in number; the food, fermentation in the intestine, cell metabolism, and the fetus and placenta, with a possible fifth in the kidney. It is a well-known fact that the autopsy reports almost invariably show dilated ureters in women dying in advanced pregnancy, and from retention there may be some contributory share. With regard to the part played by the fetus and placenta, little is yet known, and whether they furnish a portion of the enzymes which attack the maternal organism, as has been declared by some is a question which the chemist has not yet answered. Thus it will be seen that while the etiology of the disease is by no means clear or settled, we

still have made a marked advance over a few years ago, and are headed in the right direction. What the pathologist has done for us however, is to furnish the results of the findings post-mortem so arranged as to give us more definite ideas on which to work, and we believe that the time is not far distant when the actual toxin or enzyme which causes the complication will be discovered.

The maternal mortality varies according to the treatment, and is given by various authors as ranging from five to fifty per cent, the latter figures being more nearly correct than the former. In the series of cases already referred to, the maternal mortality was, in the hospital wards thirty and eight-tenths percent, and in the outpatient department twenty-three percent, the difference between the two being explained by the fact that the cases in the hospital were not in many instances seen until they had been in the convulsive stage for a long time, whereas the cases in the outpatient department were treated immediately.

Treatment. This is divided into (a) prophylactic, (b) operative, (c) curative, according to whether the patient shows symptoms of a threatened attack, or whether being delivered, the attack supervenes.

If we consider for a moment the pathological side of the condition already spoken of, it is apparent that whether or not we know the exact cause of the disease, the problem which confronts us is one of systemic balance. That is to say whether the power of the organism to excrete is greater than its ability to absorb, or in other words, whether the destruction of the parenchymatous organs has been sufficiently extensive to make it impossible for them

to take care of the extra work being thrown upon them, and here is where the prophylactic treatment is of value. This consists of watching the patient's elimination with the greatest possible care, and where the normal channels are not working to their best advantage, aiding them in every possible way. The urine should be consistently and carefully examined, particular attention being paid to albumin, urea, indican, acetone and diacetic acid. The nitrogen partition may be of use where it can be done. This however requires the services of a trained chemist, for at least forty-eight hours, and is difficult to have in the ordinary run of private cases. When under eliminative treatment we note little or no change for the better, when the edema, blindness, dizziness, and headache remain the same or grow worse, we should be constantly on our guard, ready to deliver if but even one convulsion supervenes. Here we should remember that the convulsions do not occur until the balance already referred to has markedly diminished in favor of the absorption, and that what we must now do is to get rid of what is causing the difficulty, namely the contents of the uterus. Certain it is that these convulsions do not occur except in the pregnant or recently pregnant woman, and that to give her any chance at all we must terminate the pregnancy. No evidence has been at any time adduced to show that there is anything to be gained by allowing the woman to remain undelivered, and the consensus of opinion of all who have given the most thought to the subject is that immediate delivery after the convulsions have appeared is the best treatment.

Regarding the methods of delivery to be employed, these will vary somewhat ac-

cording to the individual case. Rapid extraction is important, as every convulsion which the patient has favors hemorrhage, and in this way handicaps the chances for recovery. At the same time we should choose a method which will do the least harm to the mother and child while securing an effectual delivery, and in a large majority of cases this can probably best be effected by a manual dilatation of the cervix and internal podalic version. If when first seen the patient has been in labor for some time, and the os is well dilated or dilatable it may be advisable to use forceps. In other cases the operator may consider it wise to assist the dilatation by inserting an hydrostatic bag, thus allowing the patient to dilate more slowly and later delivering her by an appropriate operation. Again, the operation of vaginal Caesarean section may be performed but this procedure should be used carefully, and if done by one not skilled in vaginal work the operation presents a good many difficulties, and the free and easy way in which inexperienced operators talk about doing this operation is astonishing to those who have encountered the difficulties which often present in a patient who is at or about term. The writer has had considerable personal experience with the operation, and distinctly believes that it has a place, but any operation which offers the dangers of injuring the bladder or the rectum, the danger of profuse hemorrhage and the difficulties of suture, which this one does, is not to be lightly undertaken, and he further believes that in the vast majority of cases he can accomplish a perfectly satisfactory delivery with a manual dilatation, and version with less damage to the mother than by means of the much vaunted vaginal Caesarean section. Lastly, there are cer-

tain cases such as a young primipara with a small narrow vagina, rigid cervix and perineum, with or without a contracted pelvis where the operation of abdominal Caesarean section, will save the baby and in my opinion not subject the mother to any more risks than the other methods of delivery.

Having delivered the case, in the large majority of the patients the convulsions will cease. Should they not do so, our efforts must be concentrated on two things, first the controlling of the convulsions and second the securing of prompt and satisfactory elimination by the various excretory channels.

The common custom in controlling convulsions is to make use of chloroform given just as the attack is impending, and this method has been used for a long time. Some of us feel that, since the drug has frequently to be used over a considerable period and knowing as we do that the lesions of chloroform poisoning are in many ways similar to those which we are trying to combat, it is better to get along without it if we can, and fortunately this is possible in the large majority of cases. For this purpose the writer has for a long time been using scopolamin gr. 1-100, and morphin sulphate gr. 1-6, given hypodermically at hour intervals for three doses, if necessary, and has been highly pleased with the results. The amount of morphin given is not sufficient to lock up the secretions, which is the objection usually lodged against it, and its beneficial effects are very striking, one or two doses being in many cases quite sufficient. If desired hyoscin may be substituted for the scopolamin as the two are almost if not practically identical. Chloretone by rectum in 15 grain doses has been rec-

ommended lately, and is of some value. Latterly the Germans have been using morphin in large doses, as have also the obstetricians at the Rotunda Hospital in Dublin, and although there is a great deal of opposition to its use, these observers report some striking results. It is of course to be understood that the medication in no way acts as a cure for the condition but merely as an adjuvant, giving the organism time to find its equilibrium, provided the destruction to the excretory organs has not been too great.

For catharsis croton oil has been advised by some, but the cases which have come under my observation, where this drug has been used, have all done badly, and personally, in addition to high saline irrigations, of from twenty to fifty gallons, or continuous instillations of normal saline solution by the Murphy method, I find that the administration of elaterin is the most satisfactory means of causing elimination from the bowels. Pilocarpin to induce sweating is not indicated on account of its tendency to cause edema of the lungs, and the writer has had very poor success with hot packs, as he has lost several patients who have died in the pack, apparently not being able to stand it. Veratrum viride is not much used in this part of the country, although highly thought of in the South and West. Thyroid extract has been used with apparently beneficial results, but not enough is known about it to be of much value.

As regards operative measures postpartum, renal decapsulation has been advocated and done; and there is a good deal of debate as to whether the operation is of value in nephritis, and whether it be of value or not in the condition with which we are dealing, it certainly is not indicated

much is it the fashion that it is well for as you can readily see when you consider the pathological facts of the case. Lumbar puncture has been advised, with as might be expected no result for the better. In cases with a full bounding pulse, venesection with the extraction of 500 to 1,000 cc. of blood and followed by an equal amount of normal saline solution is at times of value. With direct transfusion of blood in cases of this type the writer has as yet had no experience but under proper conditions something may be arrived at.

To sum up then in conclusion, in the convulsive toxemias of pregnancy, we have a condition where the balance between elimination and absorption is increased in favor of the absorption, as a result of the destruction of the parenchyma of the excretory organs. The cause of this destruction is due to some toxin floating in the blood, which is probably of the nature of an enzyme which causes among other things a destruction of the cell by autolysis and a solution of the endothelium of the blood vessels, allowing the vessels to rupture during the high pressure of the convulsion. The treatment consists of carefully watching the patient, in order to assist the organism to properly excrete, and to interfere when it is no longer able to do so. Once having removed the cause, namely the products of conception, to treat the case by controlling the convulsions and assisting elimination, trying to use methods which will not throw more strain on the excretory organs, and remembering that in many cases the destruction to these organs is already so great, that any treatment will be of no avail.

MIND AND MEDICINE.¹

BY

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At the present time the medical profession is confronted by an unusual combination of circumstances.

In the first place we are frankly and openly opposed by a large body of intelligent people who have no knowledge of disease and who are organized into one of the best managed and most carefully advertised trusts of modern times. This body of people is cultured, fashionable and attractive, and passes as a religious sect; these facts guarantee to it a reasonable lease of life. Judging from the advertisements of this body of people we are warranted in assuming that its main purpose is the treatment of all kinds of disease by a form of mind-cure.

In the second place, certain Christian denominations are claiming the power and the right to treat the sick, in some cases by mind-cure and in other cases by a supernatural power, termed unction. This movement is aided and encouraged by part of the medical profession.

In the third place, the power and right to practice "drugless healing" is claimed for smaller sects, miracle-working shrines, individuals with unusual psychic powers and a variety of fetishes all of which operate by impressing the mind. Different forms of drugless healing become more numerous and insistent in their claims and demands as the laws governing the practice of medicine become more universal and exacting. Psychotherapy is in the air, in the profession as well as out of it; so

¹ President's address before the Brainerd Medical Society, Wisconsin.

each one of us to give it some attention if for no other reason than the lesson in psychology that it affords us.

The profession has been so interested in morbid anatomy and surgery during the last score of years that it has neglected some less remunerative fields of practice and this is in no small measure responsible for the spread of drugless healing among those who have no knowledge of disease. It is hardly to our credit that there should be a necessity for such an awakening on the subject of psychotherapy within the profession at the present time. Neither is it to the credit of the Christian denominations that they should be so anxious to establish church clinics now that Christian Science has become such a financial success.

The subject is forced upon us whether we like it or not and it may be well to give it the consideration that it deserves. It may be humiliating to have it forced upon us in this way; it is humiliating to have patients over whom we have spent time and thought go to some blatant drugless healer and have their disorders juggled out of them in one or two sittings.

But this is not a new experience with the profession. Many years ago the most eminent surgeon of his time, Sir James Paget, in a letter to Sir Henry Acland, wrote: "What unsatisfactory and hardly manageable cases these are. This clever, charming and widely known lady will some day disgrace us all by having her maladies juggled out of her by some bold quack, who, by mere force of assertion will give her the will to bear or suppress or forget all the turbulences of her nervous system."

It may be instructive for us to look into the operative methods of these jugglers and see whether there is any rational sci-

entific basis to them. It is our legitimate function to do the juggling if it must be done; perhaps we may learn how to do it. It is no less important to the surgeon than to the internist if we may judge by Paget's letter. Many a surgeon would rejoice if he could juggle the aches, pains, nausea and constipation out of a neurotic patient upon whom he has done some major abdominal operation.

If we are really to know the subject we must go about it in the right way, just as we have gone about the physiology and pathology of other departments of medicine. Psychology is part of physiology and it must be taught and studied in the medical courses at the same expense of time, money and brain energy as are other parts of physiology and pathology. Old traditions and philosophical speculations must be cast aside and the mind must be studied as a function of the living brain.

Much good work has been done in recent years at great labor by able scientists, and I regret to say that we of the profession know but little of it. Perhaps I may be permitted to bring to your attention a few thoughts that seem to have a direct bearing upon the subject under consideration.

There are said to be many parallels in the action of the body and that of the mind. I prefer to say that there are many significant analogies between the action of the body in general and that of the brain in the production of the mind. For example, every brain center that sends out motor impulses sends out inhibitory impulses at the same time to the antagonistic motor apparatus; a center that sends motor impulses to the flexor muscles sends at the same time inhibitory impulses to the opposing extensor muscles. In the same way an intellectual center that gives origin to

one line of ideas inhibits the development of a line of antagonistic ideas, or, as Münsterberg puts it, opposing ideas may be assumed to flow from the intellectual centers over two different paths; while the one pathway is active the other remains closed. As a second example of analogy, I may state that the nutrition equilibrium of the body may be maintained on very great differences of food assimilated; in like manner the efficiency equilibrium of the mind may be maintained on very great differences of work done. As a third instance of analogy the maximal energy that may be generated in any normal organ is several times greater than is necessary in order to perform its ordinary function. For example the maximal contraction of the normal heart muscles is several times greater than is necessary to carry on the circulation of the blood.

A new conception of mental activity originating with G. Papini of Florence and elaborated by Prof. William James (*Science*, March, 1907) in an address before the American Philosophical Society makes it appear that the mental power of the brain like the power of the heart and other organs is very much greater than is necessary to satisfy the ordinary daily demands. Professor James claims that we all habitually live far within the limits of our mental energy, that we all have vast stores of mental power that are rarely called upon. We all have our high and low mental tides, remarkable fluctuations and variations of mental tension; but the energy ordinarily available for running our mental and moral machinery is relatively little. In other words we have vast stores of slumbering mental energy that the incitements of the ordinary day do not and cannot call forth. As Professor James puts it, we regularly

indulge fatigue-habit and stop at our "first wind," at the first layer of mental fatigue. All our ordinary lives are cast on this side of that layer. Beyond the extremity of this first fatigue-distress, we may tap layer after layer and find new sources of strength and power, ease and comfort that we never dreamed of possessing or attaining.

These stores of latent cerebral energy in most people seem to be suppressed or inhibited by what Mr. Horace Fletcher calls "fear-thought," the self suggestion of weakness or inferiority. This is the obstacle or barrier to the regular utilization of our powers of mind and in order to bring out these powers the barrier must be overcome by some unusual stimulus. In other words the fear-thought must be inhibited and its inhibition operates by suggesting increased energy and power, and increased power—great or small—comes to the individual in some form.

I have emphasized these two things, the inhibition of one group of ideas by an opposing group and the stores of slumbering mental energy possessed by all normal individuals because they are the two things with which we must operate in psychotherapy. Giving drugs or the use of electricity may do good or harm to the sick depending upon how and for what they are used. The same is true according to Münsterberg with psychotherapy. He claims that no one should attempt to practice psychotherapy who has not been properly trained in that branch of medicine and whose training is not based on a knowledge of scientific psychology.

The essential principles of psychotherapy may be briefly stated. The mind tends to translate into physical reaction any suggestion or idea which can be actively

aroused and kept at the focus of attention; the idea must seem possible and reasonable. All opposing ideas must be completely inhibited and the mind must be made to give the idea free play. Suggestion under hypnosis or in a hypnoid condition or in a normal condition by a strong, hopeful, stimulating personality, in whom the subject has absolute confidence, is the secret of success. The appeal must often be made not so much to the rational mind or the reasoning faculties as to those deeper and more fundamental psychic activities rooted in the instincts, feelings, habits and hereditary tendencies that are more far-reaching in their effects than anything in the rational mind. For this reason psychotherapy will always be more effective with women than with men and this explains why the combination of religion and medicine, faith-cure or miracles of healing, has always been in vogue among those in whom the instincts and traditions predominate over reason.

Further, the deeper levels of the mind, the slumbering mental energies must be aroused at least along some line and in some degree. According to Professor James the will is the ordinary and normal opener up of those deeper mental levels. The will is often weak and some unusual stimulus is necessary. War is given as an extreme example of such stimulus; it shows what men and women can do. Religion is equally powerful and early Christianity gave remarkable examples of the liberation of energy in the individual and in the masses. Professor James thinks that the modern fads of which Christian Science is the best example, have caused a very copious unlocking of cerebral energies and he thinks that our scientific education and our painfully professional intel-

lectual respectability has unfitted most of us for comprehending these phenomena. The most striking example of an individual instance that has come to my notice was a follower of the late Mr. Dowie who was distributing leaflets on a train on which I was a passenger. She had arisen from the common world to the remarkable level of one who had finally discovered all truth and she shows this exaltation not only in her mental activity but in every movement of her body.

The fatigue-barrier or the threshold of pain may be very near the surface in the case of a hyperesthetic, self-centered, chronic invalid; they may be set far back by giving such a person a real purpose in life, by arousing a living interest in almost anything even though it be nothing better than studying Mother Eddy's "Key to the Scriptures" or Dowie's sermons.

There is some line along which every individual tends to be inflammable by the power of ideas and now that the psychology of the people is undergoing such changes it is a power that we cannot afford to neglect. The secret of success is in finding this line of ideas for the patient before us. For one it may be finding a new religion, for another bracing up in an old one, or falling in love, or taking up a line of study, or getting a dose of yellow patriotism, or going to a missionary field. Be the stimulus what it may the old troubles cease to vex, the old pains fly away, the individual shows good cheer, good temper, a firmer and more elastic moral tone, a life having new qualities, new freedom, enlarged powers. It is certain that such stimuli do enable people to push back from their more ordinary positions the fatigue-barrier, the distress-obstacle, the threshold of pain and learn to live in perfect com-

fort on much higher levels of power and efficiency. It is also certain that the ability to do this is greatly augmented by the practice of doing it. To my mind this is a very satisfactory explanation of how Christian Scientists and other believers in mind-cure and faith-cure succeed in getting along in many cases without the services of the medical profession. The neurotic woman who repeats, "There is no pain! there is no pain! there is no pain!" and who attempts to ignore it in every possible way and to live above its annoyance soon develops a power of resistance to its demands that puzzles those who do not understand.

Of course my audience understands that I do not advise neglecting pain, not even the minor pains; nor do I justify Christian Science nor any other system that ignores the reality of pain. "Pain is the monitor" and serves the very important function of warning us of the presence of danger. No living being can long endure without a lively sense of, and a quick response to the sensation of pain, and the Christian Scientist, Dowieite or other patron of faith-cures and "modern miracles" who ignores the warning pain of malignant growths, appendicitis, peritonitis, and the many other serious diseases of the body will leave others to propagate a race having larger common sense. We of the medical profession must and do recognize the power of ideas in the treatment of disease; the profession has always done so, but as I have stated, it has not always given it the attention that it deserves. I think it is our duty emphatically and persistently to condemn the treatment of the sick by others than the members of the medical profession. There is nothing that others can do, but that ought to be better done by those especially trained to do it. As Münster-

berg says even as simple a remedy as psychotherapy may do harm instead of good if not properly applied. But the real danger appears when, as is so frequently the case with Christian Science, the symptoms of serious disease are ignorantly overlooked until it is too late to apply rational methods of treatment.

INDICANURIA IN YOUNG CHILDREN.

BY

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Although little is said in the text-books on diseases of children in reference to indican in the urine, the condition is so common that it would seem it should have a more prominent place among the urinary investigations and the urine of children should be examined as carefully and systematically for indican as for albumen, casts, sugar, etc. Upon its presence or absence our diagnosis and treatment of a case often largely depend.

I have studied a great many cases among children where indican was present in the urine and have made repeated examinations of the urine for this substance.

Indican was present in varying amounts in a certain percentage of cases of diphtheria, measles, scarlet fever, pneumonia, bronchitis, tuberculosis, rheumatism, constipation, gastroenteritis, enteritis and gastritis.

In almost all of these cases there was a heavily coated tongue, foul breath, and bad stools, with either constipation or diarrhea as a rule, and while the majority had more or less fever at different times this was not always the case. The more prominent the toxemic symptoms, such as head-

ache, fever, vomiting, etc., the greater the amount of indican found in the urine, so that this seemed to be a fairly accurate guide as to the severity of the condition.

As the symptoms improved under treatment the indican became less and less until it finally disappeared entirely from the urine.

Indican Test. The test for indican I have found most convenient and satisfactory is as follows: Equal volumes of hydrochloric acid and urine are shaken together in a test tube, then a few drops of hydrogen peroxide are added; then three or four cc. of chloroform are added to the test tube, and the whole allowed to stand a few minutes. If indican is present an indigo color will appear near the bottom of the tube. The amount of indican as represented by the blue color will vary according to the intensity of the disease and amount of toxemia. If toxic products have entered the general circulation and acted on the liver causing jaundice and the appearance of bile in the urine, this test will show a green color, varying from a light to a darker green. There may be also a purplish or reddish color or even a very dark blue or black and this indicates an intense toxemia.

When there is only a slight amount of indican present there will appear a narrow ring of blue floating on the top of the chloroform at its junction with the urine. One case of persistent and uncontrollable vomiting is of special interest and illustrates most forcibly the importance of urinary examination for indican.

An anemic rather poorly nourished boy of three years was brought to me for persistent vomiting which had lasted for six weeks. The child awoke every morning between three and four o'clock and vomited

a bile colored fluid with some mucus and sometimes a small amount of undigested food. He was constipated and the stools were clay colored, and when first seen by me he had slight fever. According to the mother he had repeated attacks of fever. This with the fact that he came from a malarial district on Long Island led to the examination of the blood but no evidences of the malarial plasmodium were found.

Inquiry showed that two years previous he had had a somewhat similar attack which lasted several weeks, when two large round worms were passed and relief from all symptoms followed.

Acting upon the supposition that worms might be the cause of the persistent vomiting this time, santonin and calomel were given in 1-6 grain doses of each for six doses and the stools carefully watched for worms with no result. After this at intervals $\frac{1}{2}$ grain of santonin and calomel for six doses were given at two different times and the result carefully watched, but no worms were obtained and the child, whom I had put upon a very much reduced and rigid diet, continued to vomit although there was some improvement. The stomach was then washed out and a large amount of mucus was found, also some undigested food.

Tincture of nux vomica one drop three times a day, and rhubarb and soda a dram three times a day were given. At this time a specimen of urine was obtained which proved on examination to be loaded with indican. The child had been badly fed, receiving considerable candy and sweets between meals and a large amount of meat at meals. He being an only child had been badly pampered.

I put the child on a cereal and fruit diet, allowing farina, rice, strained oatmeal, a

very small amount of milk, fruit such as orange juice and baked apple, a small amount of dry bread and butter. Later vegetables were added but no meat or sweets were allowed.

The child steadily improved under this diet and medication. The vomiting continued, however, for six weeks after the patient came under my care or three months in all, when the vomiting stopped and the indican disappeared from the urine and the child was pronounced cured. This child evidently had a very severe toxemia due to a gastro-intestinal fermentation resulting from bacterial putrefactive decomposition of proteids in the alimentary tract, a conclusion justified by the fact that it has been demonstrated by numerous careful observers that indol is always produced by bacterial putrefactive changes acting upon the proteid of the ingested food. Vegetable proteid is less likely to be acted upon in this way than animal proteid on account of its cellulose covering. This, therefore, is an argument in favor of a cereal and vegetable diet in these cases.

According to Wm. H. Porter proteid elements are undergoing putrefactive decomposition nearly always in the alimentary tract when indican is present in the urine, and even the slightest trace of indican is abnormal.

As a result of these putrefactive changes in the alimentary tract toxins are formed and absorbed into the general circulation, causing innumerable symptoms by their action on the nervous system, such as headache, nervousness, irritability, dizziness, sometimes nausea and vomiting, etc. Two or three symptoms I have noticed as being prominent in these cases and common to all, namely: furred tongue, foul breath, more or less fever, loss of appetite

and usually constipation. The following symptoms may be present: jaundice, pain over the liver, stomach or abdomen, wakefulness, anemia, malnutrition. Errors in diet and improper oxidation of the food are responsible for this condition in the vast majority of cases, since we now know that the quantity of oxygen in the shape of fresh air taken into the lungs defines to a large extent the amount of food that can be digested and assimilated and formed into flesh and blood and bone and other tissues. All food has to be oxidized before it is assimilated and goes to make tissue. Suboxidation products when found in the urine are indications of faulty metabolism. This is due to faulty living and feeding in the vast majority of cases.

Treatment. The treatment most efficient in these cases has been to thoroughly clear out the alimentary tract with calomel followed by a saline such as citrate of magnesia. Give rhubarb and soda three times a day. In some cases dilute hydrochloric acid will be found valuable given three times a day, also from one to three drops of tincture of nux vomica. Eating between meals should be prohibited and no candy or sweets should be allowed. The diet should be restricted at first to cereals, cereal gruels, and a small amount of stale bread and butter; fruit such as the juice of oranges, and baked apples and later fresh vegetables also may be given.

Special symptoms will require special medication. When this condition occurs with any of the contagious diseases, rheumatism, pneumonia, diarrhea, constipation or other disease, the special disease in hand must be treated along the lines indicated for that particular disease, in addition to the therapeutic measures pointed out for the indicanuria.

SOME REMARKS ON PROSTATITIS.

BY

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Prostatitis is an infection of one or more of the glands or ducts of the prostate accompanied by inflammatory changes in the tissues of the organ. The infective agent may be any pus producing germ such as colon bacilli, streptococci, staphylococci, gonococci, or any irritating bacteria. In the vast majority of cases the primary infection is due to the gonococci followed later by a mixed infection with other organisms. The process may be acute or chronic.

It is not the purpose of this paper to deal with the acute disease, as the symptoms are so well marked, the diagnosis so readily made, and the treatment so clearly outlined, that the condition from a clinical standpoint offers little for discussion.

Chronic prostatitis with its many stages of development, its varied symptoms, the more or less unsatisfactory method of treatment, and time when the patient shall be considered cured, will be here discussed.

Pathology. Infection of the gland produces changes in the prostatic tissue, these changes depending on the length of time the inflammation has existed and the amount of tissue involved. In some cases not much more than a posterior urethritis exists and inflammation of the tissue surrounding the opening of the prostatic ducts. Other cases show inflammation of one or more of the glands, while in still others, all the glands are involved. Where the infection of the prostate is only about the mouth of the ducts and the tissue surrounding them little or no enlargement is apparent by palpation per rectum.

When a few of the glands are inflamed the prostate has a lumpy or nodular feel when palpated and there is considerable enlargement of the organ. A general inflammation of the tissues of the prostate produces on rectal palpation a more or less smooth oval mass, regular or irregular in outline, soft and boggy or hard and firm depending on the length of time the disease has existed. In recent cases where the organ is large, soft and sensitive, one massage will reduce the gland to nearly its normal size by simply emptying out the pathological secretions.

It is not my intention to weary you with a detailed account of the changes that take place in the tissues of the prostate as a result of the months or years of inflammation; suffice it to say, that the round-celled infiltrate found in recent cases gradually undergoes changes that leave the tissue sclerosed and the prostate hard and unyielding to the touch.

A wide variety of opinion exists as to whether chronic prostatitis is the primary cause of senile hypertrophy of the prostate. It does not seem to be unreasonable to deem it one of the chief producing causes either through long continued infection or congestion of the organ.

Symptoms.—The symptoms of chronic prostatitis are similar to those of chronic posterior urethritis which always accompanies it, so that it is difficult to say just what symptoms are to be attributed to the diseased urethra and what to the prostate. It is my opinion that they are almost entirely due to the inflamed posterior urethra and the vera montanum.

The subjective symptoms are often those of sexual neurasthenia, mental depression or melancholia. The patient complains of pain in different parts of the body, most

frequently in the supra-pubic region, groin, testicles or penis. One of the most common is stiffness and pain of the back in the lumbo sacral region. Many a man today is being treated for rheumatic lumbago whose symptoms are entirely due to prostatitis. Other symptoms are an uneasy feeling in the posterior urethra at the end of urination, but usually there is no frequency of urination. A common symptom is a persistent morning drop of mucopurulent character. After the patient has used unsuccessfully all the internal medication and urethral injections that the druggist and the medical man knows, this gleet discharge does more to upset his mental poise than all other symptoms combined. The urine may be clear even though there be a large amount of pus in the prostate but usually there are shreds and fine specks. With the morning drop and a history of repeated exacerbations when the urinary canal is irritated in any way, one is led to suspect prostatitis.

Some authors have attempted to classify patients according to different groups of predominating symptoms. Apparently nothing is to be gained by this for the temperament of the patient has more to do with the symptoms than the different pathological changes that take place in the prostate and the posterior urethra. A morning drop or the temporary failure of the erectile power may upset a patient's nervous equilibrium and produce a train of nervous symptoms when the prostate is not involved at all.

Diagnosis.—The diagnosis is simple and is made, after washing the urethra, by expressing the contents of the prostate, making a smear and examining microscopically. If a considerable amount of pus is present a diagnosis of prostatitis can be made. The

nature of the infection is not so apparent. In many cases a variety of bacteria are found. It is rather a rare occurrence to find gonococci in the old chronic cases. When tuberculosis of the prostate is suspected, if the bacillus is not found, injection or vaccination with tuberculin should be resorted to in order to exclude the process.

Treatment.—The treatment consists of massage of the prostate, emptying out the pathological contents of the diseased glands and endeavoring to produce absorption of the infiltrated tissue. While this is not an ideal treatment from the patient's or the doctor's standpoint, it is practically the only successful treatment yet devised. A few of the more recent cases make a comparatively speedy recovery in two or three months, but as a rule, freeing the prostate of pus is a much more tedious process, requiring many months.

After long continued treatment the prostatic stripping finally shows only five or ten pus cells to a field and no amount of further treatment seems to lessen the number. Are such cases to be considered cured, free from gonococci, if after treatment has been stopped and a considerable lapse of time no exacerbation has occurred and the microscope shows no increase in the amount of pus?

This question is fraught with grave responsibility both to the patient and the doctor. The patient who has had gonorrhea complicated with prostatitis wishes to be assured that his genital canal is free from gonococci. Perhaps his wedding day is at hand and he wants to be positive that there is no chance of his infecting his wife with all its dire results. The physician remembering the peculiar faculty gonococci have of burying themselves in the tis-

sue and remaining there comparatively inert until some irritation or congestion of the parts lights them into activity with the return of the symptoms of gonorrhea, does not feel certain that the prostate is free from latent gonococci so long as any pus remains in the prostatic strippings. In helping to decide this question the following facts are to be considered, that gonococci are mainly the primary causes of infection of the prostate, that eventually the infection is a mixed one and that pus may persist in the prostatic strippings from other organisms after gonococci have disappeared, that even though gonococci are buried in the tissue, the mucous membrane covering it is never healthy and shreds and pus are nearly always present in the urine; that from the vast number of cases of prostatitis which must necessarily exist without being diagnosed or who marry, with the microscope still showing a moderate amount of pus, comparatively few married women give evidence of subacute or chronic gonorrhea.

With the object in view of adopting all known measures to make sure that cases with comparatively few pus cells in the expressed contents were free from gonococci, I had Dr. White, of the Hoagland Laboratory, take smears and grow cultures from some of the prostatics whom we considered cured, that is, patients with clear urine and only few pus cells found on slide.

A brief outline of the history will now be given and the result of the microscopic findings and culture reports:

Case 1. Patient had gonorrhea two years ago and since that time never has been free from some symptoms of the disease. Examination March 27, 1908, slight discharge at the meatus, which he says is

increased in amount after sexual intercourse; urine contains fine shreds, has slight stricture band in the anterior urethra, endoscope shows enlarged vera montanum, left lobe of the prostate enlarged, prostatic strippings show moderate amount of pus; no diplococci present.

Treatment for the above described condition was continued until Jan. 13th, 1908. There had been clear urine for some time and no exacerbations of the disease, still a moderate amount of pus in the prostate. Smear and culture taken by Dr. White. Moderate amount of pus shown on the slide. Culture shows no bacterial growth.

Case. 2. Patient says that he has had urethral discharge for the past thirteen months following a gonorrhea. Examination July 10th, 1907. No urethral discharge at the meatus; first urine cloudy, second clear. Stricture is anterior urethra, calibre 18 F. Prostatic strippings show large amount of pus. Treatment instituted for the cure of the above condition and after a number of relapses, on Jan. 22nd, 1909, slide and culture were made. Culture showed growth of bacteria but no gonococci while the slide showed considerable amount of pus. Urines were clear at this time.

Case 3. Patient contracted gonorrhea six months ago. Treated at the Post Graduate Hospital. Two weeks following infection developed rheumatism of right shoulder, knees and ankles. Dec. 12th, 1906, had some soreness of the joints. No discharge. First urine cloudy, second clear; expressed contents show large amount of pus. Jan. 22nd, 1909, urine clear, few pus cells from prostate. Culture and slide taken.

Report shows no bacteria, and slide shows pus cells.

Case 4. Patient treated at this clinic one year ago for chronic urethritis and enlarged vera montanum, discharged cured and remained so until one week ago, when after exposure, he developed urethral discharge. Nov. 12th, 1908, purulent urethral discharge; first urine cloudy, second clear, microscope shows gonococci. Jan. 22nd, 1909, culture and slide secured from the prostatic strippings. Slide shows moderate amount of pus; culture showed bacteria but not gonococci. Urine at this time shows fine shreds.

Case 5. Nothing about this case differs from the one just reported, save that he developed epididymitis during the course of the disease. Case of prostatitis long continued. Jan. 22, 1909, smear and culture taken. Smear showed moderate amount of pus and culture showed bacteria but no gonococci. Urine shows no shreds present.

Case 6. Chronic gonorrhea complicated with prostatitis. Under treatment case progressed so that the urine remained clear for some weeks, but the prostatic stripping showed few pus cells. Jan. 22nd, 1909, culture and slide show no gonococci or bacteria of any kind. Slide shows few pus cells.

Case 7. Patient gives history of gonorrhea four months ago. Five weeks later relapse. Examination shows urethral discharge, gonococci present. Treated for acute gonorrhea. Two months later urine clear, pus to moderate degree found in the prostate. Jan. 22nd, 1909, prostatic stripping shows few pus cells, culture shows bacteria but no gonococci.

Case 8. Private patient. Gives history of several attacks of gonorrhea, long continued treatment under several physicians. Came under my care two years ago with shreds and moderate amount of pus in the urine.

Urine would become nearly clear when a relapse would occur with free flow of pus from the urethra. Several microscopic examinations made but no bacteria of any kind found. Urethral discharge stopped for six months when he contracted another gonorrhea. Four months ago only a few shreds in urine but prostatic strippings showed a large amount of pus. After six weeks treatment slide showed only few pus cells and culture showed no bacteria. Two weeks later man married.

Case 9. Patient of Prof. Morton's, whose history he has kindly allowed me to report. Patient has had several attacks of gonorrhea, attack before last fifteen years ago. One year ago contracted gonorrhea which lasted three weeks. Since that time has had an uneasy feeling in the perineum and urgency in urination. Has slight mucous discharge at the meatus at time of defecation. Two years ago had sugar in urine and was passing eighty ounces of urine per day. Kept on diet one year. No sugar present at time of examination, March 10th, 1908. No discharge at the meatus, both glasses of urine clear; slight induration in the anterior urethra. Expressed contents of the prostate show a large amount of pus. May 1st, 1909, urine clear; prostate shows large amount of pus; culture shows no bacteria of any kind.

What if any conclusion can be drawn from the cases narrated above?

None of the slides taken showed the presence of gonococci, while in all but four no bacteria were found. None of the cultures showed the presence of gonococci. While this is not a large enough number of cases to be examined from a bacteriologist's standpoint to prove beyond question that gonococci were not present

yet it bears out our clinical experience that patients who have suffered from gonorrheal prostatitis, when the urine remains persistently free from shreds and only a small amount of pus is found in the prostate after treatment has been withheld for a month, may be considered free from gonorrheal infection. It is my opinion that even if a considerable amount of pus is found in the prostate and no relapses occur, that man is free from gonococci. While a further culture test is required clinical experience and the case of Dr. Morton's seem to bear out this contention.

In conclusion, the method to be adopted in all cases as a final test of the cure of gonorrhea should be a careful, thorough, persistent search of the prostatic stripings for gonococci. If none are found a culture should be made and if this proves negative to gonococci then the case can be given a clean bill of health and permitted to marry. Appropriate treatment of the prostate should be continued until the gland is of normal size to prevent inflammatory tissue changes which later may give obstructive signs.

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THE BATH AS AN ADJUNCT IN THE TREATMENT OF DISEASE.

BY

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Hydrotherapy or the treatment of different ailments by water, is one of the oldest as well as the most important adjuncts to the many therapeutic methods used by the progressive physician. Physicians are to-day giving fewer drugs in the treatment of disease, and they realize more fully the great benefits derived from the physical agents, air, water, light, heat, elec-

tricity and massage. The above agents give excellent results, because they are nature's method of curing disease, the efficacy of which cannot be surpassed. Kellogg writes that water is without doubt the most ancient of all remedies used in the treatment of disease. The fact is evidenced by the frequent reference to its use in the earliest medical literature, brought to light more fully in recent years by the study of the old Assyrian and Egyptian records. The ancient Egyptians, Hebrews, Greeks, Persians and Hindus all employed water in the treatment of disease. According to a Chinese record dating back several centuries before Christ, physicians prescribed affusions of ice water and wet packs in the practice of their profession. The bath in various forms is also referred to in Grecian mythology. Hippocrates, the father of medicine, understood the physiological properties of water; and according to Pliny the bath was extensively used as a method of treatment in Rome during five centuries. In America in 1794 Dr. Benjamin Rush introduced the use of water in the treatment of rheumatism, gout, measles and many other maladies. In 1795 cold water was used in the New York Hospital for the reduction of the temperature in the various fevers. During the present century hydrotherapy has flourished to a considerable extent in America. Many institutions are carrying out this form of treatment in different parts of the United States and scientific hydrotherapy has made rapid strides. Priessnitz and Hoffman whose authority commands universal respect declared water to be more nearly a panacea for all human ills than any other known agent. This fact which has never been disproved is largely due to the peculiar physical properties of this versatile element. Its

three most remarkable properties being its great power for absorbing and communicating heat, its solvent properties—water being the one universal solvent, and the facility with which its physical state may be changed from a liquid to a solid or gaseous form. Pratt says that there is a widespread error even among physicians that hydrotherapy is limited to cold water treatments. Other common misconceptions are that hydrotherapeutic treatments exert little or no influence on the body. The fact is that there are few drugs in use which have such a beneficent influence upon the animal economy. Modern hydrotherapy is founded on the solid rock of physiological and pathological knowledge.

I wish to speak especially of the use of water in heart disease, that is by the application of this agent in the form of the Nauheim bath. The Nauheim bath is a carbonated or effervescent bath made by the combination of calcium chloride or ordinary sea salt, acid sodium sulphate and sodium bicarbonate. In the treatment of heart lesions we have relied for the past few years chiefly on the action of such drugs as digitalis, glonoin, strychnin, caffeine, strophanthus, etc., with various results. These drugs have a direct action on the heart differing from the Nauheim bath in the following way; the action of the bath is indirect, that is, it affects the superficial capillary circulation, then the deeper and larger vessels, increasing the capacity of the arteries and veins. Resistance to the peripheral circulation is removed and the heart is relieved of a large percentage of its work. Contraction of the heart muscle is slower and more complete. This gives the organ a chance to gain in muscular strength. At the same time the bath is beneficial to the nervous symptoms that

are usually found in these cases, being tonic in its action. In a manual recently received which gives an excellent description of the baths at the little German town of Nauheim, where so many people afflicted with heart disease go, there is given such a complete set of rules governing the administration of the bath that I give it verbatim:

“Details of Baths. The temperature ranges from 95° down to 84° or 85° F. In Nauheim a bath of 77° F. is occasionally given, but in average cases all the therapeutic effects can be obtained between 95° and 86° F. The temperature of the first bath should hardly exceed 95° F. and the duration of a bath at that temperature should not exceed seven minutes. It is to be remembered that with a temperature of 95° a short immersion depresses.

The next day this bath may be repeated without any change as to temperature and duration. On the third day omit the bath. It is to be noted that every third or fourth day, throughout the course, the bath is omitted. This is found to be necessary not only at Nauheim but at Kissengen, at Wiesbaden, and wherever the carbonic acid gas forms a prominent feature of the baths, because over-bathing is detrimental. On the fourth day the bath may be given one degree lower in temperature and a minute longer in duration. So the course progresses, in series of two or three consecutive baths, with one or two days interval between them. The temperature is gradually diminished not over a degree at a time, and the duration of the baths is gradually prolonged. As these changes in temperature and duration are made, the bath is also made a little stronger in its proportion of salt. Every two or three days the

amount of salt, which started at 5 pounds, is to be increased.

As to the rate at which these changes progress, the full course, as carried out at Nauheim, includes two series of about twenty baths each, with three or four weeks' interval between the two, and the increase in the strength of the baths would be represented, in an artificial bath, by the difference between 5 pounds of salt, or a one per cent solution, for the initial baths, and 15 pounds of salt, or a three per cent solution, for the last ones. During this time the temperature should be gradually decreased from 95° F. down to the point of easy tolerance, a point that varies very much, but will generally reach about 86° F., and coincidentally the duration of the bath will be gradually prolonged until it reaches from 20 to 25 minutes.

The Patient. So much as to the bath. As to the patient, it is important especially in cardiac cases that no exertion should be made in preparing for the bath or in leaving it. He should be assisted to disrobe and to enter the bath.

He lies down quietly and, without talking or making any needless movements, allows the bath to do its work. If he talks, neither pulse nor respiration will be acted upon so promptly as when he is quiet, while movements that disturb the minute gas bubbles that cover him will interrupt their action and induce chilliness. After the bath is over, the patient should be assisted out of the bath, carefully and thoroughly dried, aided to dress, and should then lie down for an hour. He is not to be covered with blankets to induce sweating; on the contrary, sweating is not desirable. If, however, there is any sensation of chilliness a hot water bag may be used to remove it.

In anaemic cases some form of light

nourishment may be taken after the hour's rest, but it is not advisable to allow anything to interfere with absolute repose immediately after the bath. Exercises should not be given soon after the bath; they are better given an hour or two before the bath. The Schott system of resistance exercises is peculiarly adapted as a method of 'heart gymnastics' in cardiac cases, but, in default of this, careful massage is of great service. In cases of rheumatism, massage is of more service than any other exercise. Articular rheumatism and gout are quicker to show the benefit of the treatment than muscular forms of rheumatism.

Diet. In cardiac cases the diet is a strict one. Wine is permitted to those who absolutely need it, but in general all stimulants, alcohol, tea, coffee, and tobacco are forbidden. Liquids are diminished, not even soup is allowed. No carbonated waters, no cabbage, fried potatoes, new potatoes, fresh bread, beans, turnip or anything that can produce flatulence is permitted. It is because most cases of dilated heart are also cases of dilated stomach that a rather concentrated form of nourishment is advised, but the nourishment must be adequate for the condition, for too little is as bad as too much.

Number of Baths. We have spoken of the full course at Nauheim as consisting of about forty baths. Twenty of these are taken with frequent interruptions as described. Then comes a long interval of three or four weeks during which the patient is usually sent to some healthy place for rest and moderate exercise. He then returns and takes the remaining baths, 'the after cure' as it is called. After the completion of the course improvement is usually quite as rapid, and often

more rapid than during treatment. In many cases a shorter course of twenty-four baths will be sufficient to accomplish all that is desired.

Over Bathing. When the baths are given too often or are too long in duration the effects of over-stimulation are shown in an excitable nervous condition, insomnia, loss of appetite and general loss of strength. These symptoms are not common when a physician regulates the temperature, duration and frequency of the baths, but are not uncommon when the patient treats himself."

The above rules as to the Nauheim treatment are excellent and can be followed out at the home of the patient provided some intelligent person gives the treatment. The dilation and contraction of the capillaries caused by the action of the Nauheim bath has been justly styled the "skin heart." "The skin heart expresses itself in the capillaries of the tissues as suction, in the arteries as a propulsive force." (Baruch.) Atheromatous changes in the arteries and aneurism are the only contra-indications in the Nauheim treatment. The treatment certainly assists greatly in preventing loss of compensation in the heart muscle. The Nauheim bath has also been found to be wonderfully effective in gout and rheumatism by stimulating the activity of the kidneys. The bath can be given in private practice at the home of the patient by using the artificial salts. Some firms are placing the salt on the market in convenient packages.

Among other hydrotherapeutic procedures the douche is unquestionably the most important and valuable, and in the hands of a trained operator can be brought under full control, so that all the therapeutic powers of cold water can be employed with a sedative or stimulating effect.

As a means of promoting reaction it is far superior to any other method, owing to the simultaneous thermic and mechanical effects produced when applied to the skin. It will strengthen and invigorate men and women of weak muscular powers, people who lead sedentary lives and whose business or profession gives them no opportunity to indulge in normal exercise.

In dealing with sciatica, muscular rheumatism, gout, neuralgia and arthritis, the Scotch douche—a hot douche followed by a cold douche of much shorter duration—is often employed with the most gratifying results. In cases where its use is indicated, in conjunction with other treatments, its therapeutic power is astounding.

Cold applications should never be made unless the skin is warm, preferably to the point of perspiration, which is best induced by a preliminary heating treatment with the pack, hot-air, vapor, or electric light bath.

In conditions where cold applications are contra-indicated, a douche of high temperature and short duration may be employed.

Douches can be applied in the form of jet, fan, rain, circular, perineal and fog (vapor), and may be local, or general, according to the effect desired.

Douche treatment can be given in nearly all cases where hydrotherapy is indicated "by reason of the possibility of the numerous combinations." (Cohen).

The value of the incandescent electric light cabinet in a hydrotherapeutic institute, or wherever employed scientifically, cannot be overrated; especially when it is used to excite the functions of perspiration, for which it has no equal. It is superior to the hot-air or vapor baths, in that its heat rays are identical with those of the sun's rays, thus warming the body and

promoting perspiration, not by heated air as in the hot-air cabinet, but by radiation.

The electric light bath induces sweating to a greater degree, and in less time, than any other heating agent; owing to the power of radiant heat to penetrate deeper into the tissues thereby stimulating the sweat glands to a point of activity that cannot be attained by conducted heat.

In the treatment of diseases where it is desired to promote metabolism and increase oxidation, the electric light bath is the most satisfactory measure.

People who suffer from nervous complaints will find relief and in most cases become cured by scientific water treatment given in conjunction with other methods presented by their physician. Among the chronic affections of the nervous system that are favorably influenced by hydrotherapeutic procedures are neurasthenia, nervous debility, chronic headache, insomnia, dyspepsia, etc.

The hysterical person and the hypochondriac especially will feel the beneficial effects of this treatment. It gives to the former greater power over the nerves, and to the latter control over an abnormal state of mind. Many severe cases of neuralgia have been successfully treated by this method alone.

When muscles and articulations are affected, the employment of suitable baths, supplemented by friction, kneading, percussion, in a word "massage," and manipulation of the affected joints, will prove an excellent adjunct to the drug treatment.

In cases where general treatments are contra-indicated local hot-air, or electric light applications, followed by spray douches, are given.

The following diseases have been great-

ly benefited by hydrotherapy, when prescribed by the physician: arthritis deformans, anaemia, acute and chronic gout, acute and chronic osteomyelitis, chronic gastritis, cardiac insufficiency, catarrh of bladder, chronic nephritis, chronic muscular rheumatism, chorea, constipation, diabetes, dyspepsia, hemorrhoids, hypertrophy of the prostate, hysteria, hemiplegia, and paralysis of peripheral origin, neurasthenia, neuritis, occupation neurosis, ovaritis, obesity, sciatica and other varieties of neuralgia, tabes dorsalis and tubercular conditions.

THE SALICYLIC TREATMENT OF PNEUMONIA.¹

BY

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As the title of this paper would imply, it is not intended to be in any sense historical, pathological, statistical or even exhaustively therapeutic in its scope.

It is rather a clinical account of personal experience with certain drugs in the treatment of acute lobar pneumonia, together with certain auxiliary measures that have been found useful in promoting the comfort of the patients and in restoring them to health more surely and quickly.

I take it that the three conditions most to be feared in pneumonia are high temperature, cardiac exhaustion or dilatation and edema of the lungs. Digestive disturbances, harassing cough, pleuritic pains, dyspnea, insomnia, restlessness and delirium, while important, are distinctively secondary in importance to the trinity of symptoms before mentioned.

¹ Read by invitation before the Fairfield Co. Medical Association, Danbury, Conn.

The typical pulse of the early stage of a lobar pneumonia is described as a full bounding pulse. We have been accustomed to look upon it primarily as a pulse of high tension, but in the later stages of a severe or unfavorable case, as a pulse of low tension.

Recent observers in estimating the arterial tension of lobar pneumonia are very conflicting in their reports; some claiming that the tension is not changed throughout the disease, others that in the onset the tension is high for a variable period. In the latter days of the disease it is agreed by all that the tension is regularly low. Still other observers claim that the arterial tension is invariably low throughout the course of the disease.

In certain kidney lesions some believe that the unexcreted poisons circulating in the blood current produce an irritation of the vessel walls which causes an increase of arterial tension. Long continued and with gradually increasing intensity, these causes tend to produce a permanent atheroma and, secondarily, hypertrophy or dilatation of the heart.

If that is true, it seems rational to suppose that in pneumonia the germs of the disease and their toxins circulating in the blood, may produce arterial spasm, and that this high tension of the arterial system coming on suddenly and continuing for a considerable time, may eventually be an important cause of cardiac exhaustion or dilatation in a heart unprepared by previous training for this unusual strain.

These speculations have to do with the peripheral circulation and the left side of the heart. However, the same conditions undoubtedly obtain in the pulmonary circulation, with the addition of the greater or less congestion, inflammation and edema

of lung tissue, and with the added danger of dilatation of the heart.

It is well known that in pneumonia the excretion of sodium chloride by the kidneys is regularly diminished and sometimes disappears. According to Hensel, Weil and Jelliffe (*Urine and Faeces in Diagnosis*) this diminution is often a fair index of the severity of the case.

We are told that in health the kidneys secrete from ten to fifteen grams of sodium chloride daily, and that in fevers when the amount falls to .05 gms. per day, the patient is in an extremely grave condition.

According to W. C. Wood (*Chem. and Microscopics in Diagnosis*) who quotes Santini: "In pneumonia the diminution of the chlorides appears shortly after the onset of the fever. It has no prognostic value as to the severity of the disease, and is not dependent upon the extent of the inflammatory process in the lung or upon the height of the fever.

The chlorides of the blood rise in proportion to the fall in the urine, and is explained by the assumption that the chlorine enters into combination with nitrogenous substances in the body which prevent its excretion by the kidneys.

At the termination of the infection, the nitrogenous substances are excreted in the form of urea, and the chlorine set free, appears again in the form of inorganic chlorides."

Again the same author, quoting Widal and Le Meirre, states that, "In nephritis, the edema is due to an attempt of the body to dilute the chlorides which are retained in the body from three causes:

1. Impermeability of the kidneys to chlorides.
2. Sluggish circulation due to failing heart, and,

3. Combination of chlorides with organic molecules to form a compound of large molecular weight which renders the excretion difficult."

Further, these authors say, what we have all seen, that in these cases a diminution of the intake of chlorides assists in the removal of the edema.

Many years ago, Dr. A. A. Smith favored the use of salicylate of soda in the very early treatment of pneumonia, with the hope of aborting the disease. It was given with the idea that enough was absorbed by the blood and tissues to inhibit the growth of the pneumococcus by providing an unfavorable soil for their development.

The use of salicylate of soda in the treatment of pneumonia throughout its course is beset with at least two important disadvantages. In the first place, it frequently disagrees with the stomach; and, secondly, it is apt to depress the heart in the later course of the disease. Occasionally the kidneys are irritated by its continuous use.

Acetylsalicylic acid is nearly insoluble in water, has a sour taste, and seldom disagrees with the stomach, save in patients suffering with gastric hyperacidity.

The regular effect in cases of pneumonia is very striking. About twenty or thirty minutes after a dose has been taken, the patients begin to perspire, and continue for from one to three hours.

In some cases where the drug is given in ten-grain doses, and four doses a day, the skin will be moist most of the time.

In amount, this perspiration may be only a moderate skin moisture, or it may be a drenching sweat.

Coincident with the skin moisture, the patient becomes less restless, and generally

slips off into a quiet sleep, lasting for one or more hours.

With the outbreak of the sweating the temperature begins to fall and declines sometimes three or four degrees. With the fall of temperature—and this is important—the pulse rate becomes proportionately slower and the tension lessens. In other words, the fever falls and the pulse distinctly improves in quality.

With this the respiration becomes slower, restlessness diminishes or disappears, and the patient is moist, comfortable and quiet.

These people go on and have their regular rise of temperature once or twice a day, and from one to three days before defervescence; many have a high fever much of the time, but they are so comfortable that they are often scarcely conscious of the existence of an elevation of temperature.

In no case have we seen any sign of heart depression from the effect of the acetylsalicylic acid, and (what is more important) it is exceedingly rare that we find it necessary to use a heart stimulant throughout the disease in cases uncomplicated by previous cardiac or other disease.

The condition of the patient after a dose of acetylsalicylic acid suggests the picture of a favorable crisis, and indeed, one of our eminent consultants, who saw a case within an hour after she had taken a dose of the drug, expressed the opinion that the crisis was at hand, and the patient in excellent condition.

As a matter of fact, the crisis was three days removed, and he was witnessing the ordinary effect of a dose of the drug in pneumonia.

On the respiration, the effect is equally marked. While the rate is above the nor-

mal, dyspnea and air hunger are seldom seen. Oxygen is practically never used, and the patients breathe perfectly comfortably, in a room with good, ordinary ventilation.

The temperature of these people is no doubt lowered by the profuse perspiration, and if sodium chloride stored up in the blood and tissues is a disturbing element in causing an increased congestion, swelling or edema of pulmonary tissues, or is in any other way a menace to the patient suffering with pneumonia, then the amount eliminated by the skin under this treatment must be an important element in promoting the comfort and enhancing the chances in the battle with the disease.

Nor is it unimportant, if in some way this drug retards or antagonizes the growth of the causative germ, or if it neutralizes its toxins or promotes their elimination.

It is not claimed at this time that the course of pneumonia is shortened by the use of acetylsalicylic acid, although I believe that a sufficient experience will show that it is.

Nor are all complications eliminated. We have had cases of wandering pneumonia, of delayed resolution, and of empyema. Alcoholics have their delirium,—but as far as we have seen, it has been mild in character.

Insomnia is rare, and quiet is usual.

The cough is sometimes troublesome, requiring one-eighth to one-fourth grain of codein sulphate or phosphate, at three or four hour intervals for a few doses.

Pleuritic pain, if present, can generally be sufficiently controlled by repeatedly reddening the skin with a mustard plaster or applying continuously a poultice of mustard and flaxseed, in the proportion of one

to twelve, or one to sixteen, according to the age of the patient.

It seems proper here to call attention to the old practice of using flaxseed and mustard poultices in the treatment of pneumonia of childhood.

There are certain rather uncommon cases among young children who go along very well for several days, perhaps a week or more, and then the pulse begins to fail and increase in frequency. The fever is high, the skin is dry and cool, and the restlessness increases. Heart stimulants have little or no effect, and they seem to be slipping away. Two large, thick and warm flaxseed and mustard poultices applied to the chest, one anteriorly, and one posteriorly, fastened over the shoulders and under the arms, so as to include the whole chest, and changed every twelve hours, give a great measure of relief. In many of these cases they seem to be life-saving in their effect.

The poultices are not cold when removed, if they are of proper thickness, and the child has been kept properly covered with bed clothes.

They do not oppress the patient's breathing by their weight. They do improve the peripheral circulation, as evidenced by a warm skin and a returning color to the face.

They quiet the restlessness, improve the respiration and often the pulse.

The care of the digestive tract in pneumonia is hardly second in importance to the diet in typhoid fever.

Intestinal toxæmia added to their previous infection is a serious matter to any of the patients, and no doubt may be a determining factor in the outcome among some of the elderly people, the very young

children and others with damaged circulatory apparatus. In the beginning of the disease, the bowels are cleared out by giving ten grams of calomel, followed by a saline cathartic. Thereafter a daily evacuation should be secured by means of enemata or laxatives if necessary.

For the first few days, it matters little how small an amount of food these patients receive. Afterwards they are fed at from two to four hour intervals, with whatever quantity they can readily digest, of strictly liquid food.

Milk is used when possible, but often needs to be modified by peptonizing, removing the cream or diluting with water, lime-water, cereal gruels, chicken or lamb broth.

Broths and gruels may be given alone, or mixed together in equal parts. Junket and whey are often useful.

Where curds persistently appear in the stools, in spite of other modifications, the casein may be removed from the milk with essence of pepsin or rennet and egg albumen mixed with the whey. Children are often fond of this whey and egg albumen frozen. It has a decided flavor when made with essence of pepsin and is very well borne. Fruit juices, especially the juice of certain grapes, may be given plain or diluted with water or Vichy. It is very grateful to the patient, has considerable nutritive value, and in those suffering with constipation helps decidedly in keeping the bowels regular.

If tympanitis or thickly furred tongue persist, the diet should be still further modified and probably restricted.

Water should be given internally in large quantities, from the start and continued throughout the disease. This is not dif-

ficult ordinarily, as the profuse perspiration calls for a free supply of liquids.

The care of the skin should be apparently neglected. Once in a day or two the patient may be bathed by a skilled attendant, if a time can be found when the skin is not moist. When the patient is perspiring, or the nurse is unskilled, the bath may well be omitted for several days.

Even the night clothes and bed linen should not be changed as soon as they become moist. Once a day is frequent enough in any case, and with incompetent help, the interval may be more safely prolonged.

The air of the sick room should be kept fresh and at a temperature of 65° F., or a little above.

Ventilation should be by an indirect method, and all draft on the patient's body avoided, as long as they are taking the acetylsalicylic acid.

The impressions given above were gained especially from an experience of the last three years. The ages of the patients ranged from one to seventy-seven years. They all belonged to the private patient class, and the majority of them were surrounded by fair to excellent hygienic conditions. The poorest seemed to do about as well as those most comfortably situated, and indeed the method seems particularly adapted to those who can get but little care.

But few cases of alcoholic pneumonia have been treated, and no cases of hypostatic pneumonia.

The average dose of acetylsalicylic acid has been ten grains for adults, and given four times a day, at intervals of four hours. It is always given in the higher febrile stage, whatever part of the twenty-four hours that may be.

Our experience is too limited at present

to give any mortality figures, but, if what we have seen in the past is a true index of the future, apparently the death rate in pneumonia will be decidedly reduced by the use of this derivative of salicylic acid.

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EUGENICS AND THE PROFESSION OF MEDICINE.

BY

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No well-informed citizen of the world who is unbiased by the bigotry and sophistries of cults can fail to commend in every detail the splendid efforts that are making in certain quarters for the betterment of the race. Every man is at heart a practical believer in the greatest good to the greatest number, however he may have set himself against society in general in the attainment of his own selfish ends. He must realize that somehow and in some way he or his dependents will reap largely of the fruits of public beneficence immediate or remote. The medical profession has ever been in the vanguard of this moving procession which has for its ideal goal the emancipation of humankind from the tyranny of physical forces. We are much engrossed in these days with the fine phrasing of those who see a modern Utopia looming up out of the chaos and black night of death-dealing disease through the saving grace of what is called for want of a better name preventive medicine. It is true that great good has already been accomplished, but surely less by the sword than by the spirit. The generality of folk are by no means alive either to what has been, is now being or may yet be done by taking proper advantage of the

knowledge which should be gleaned from experience and joined hand in hand with the splendid strides of modern science. That is not the fault either of the physician or of the scientist; for both have been preaching the gospel of prophylaxis with all their power from the very housetops, and if much of the seed they have sown has fallen on arid soil it is because "the times are out of joint," and not because the seed is devitalized.

Our studies in sanitation and prophylactics have led us pretty definitely to the outpost from which we can see vast possibilities in the coming age. Little wonder is it, therefore, that we grow impatient under the restraining leash of an indigent exchequer and listless legislators who may offer millions for defense but scarcely a farthing for offense. The work of a National Bureau of Health would be very largely of a preventive nature, but the time does not yet seem ripe for its coming. Meanwhile we are forming societies for the study of those conditions which cling like parasites thriving upon the body politic. In England they call this newly cultivated field the science of eugenics—an excellent word for an excellent object, that of mental and moral humaniculture. Dr. C. W. Saleeby in his excellent book just issued* states very clearly and forcefully the character and aims of this movement which is certain to grow to tremendous proportions however slow its beginnings may be. They who call themselves Socialists and who spend their time and effort in launching diatribes against wealth and the spiritual wickedness that exists in high places would do well to turn their attention to both the positive and negative phases of eugenics which cover the entire field of their pres-

**Parenthood and Race Culture.*

ent activities and a great deal more. It is unquestionable that the racial poisons, alcohol, the narcotics and venereal diseases, have brought untold misery upon mankind. What may be called the asepsis of society demands their complete and effectual eradication in order that no sluggish streams of contaminated blood shall pollute the main currents which must run through coming generations. Natural selection implies natural rejection; hence it is little less than criminal that intermarriage should take place between persons afflicted with genito-urinary disease, insanity and the horde of medical horrors which are constantly before our eyes. Every dictate of conscience and reason argues against continued silence concerning these all-important and vital issues. In England the Eugenics Education Society led by that apostle of racial reform, Mr. Francis Galton, is aiming its weapons against the ignorance and wilful neglect of ideals of parenthood. The society has already drawn effective attention to the rational and humane treatment of inebriety, but this is only one of a thousand needs. Degenerates for instance are no less fertile than normal persons, and proper control of their sexual output is imperative. In the great American ideal of liberty we undoubtedly are altogether too lax in our methods of restraining the unfit and supervising the defective. Castration or vasectomy of the hereditary criminal is not likely to become general in this country for many years, but is this measure not in accord with the conservative efforts of Nature everywhere? Is it not mandatory that the individual be sacrificed for the good of the State, and has it not always been thus in the highest realms which civilization has attained? But the medical man is not an executive or an

administrator. Neither is he a becoming figure as a propagandist or agitator, but in so far as lies in his power he ought to suggest and point the way and give the proofs of those great possibilities for social betterment which are within his reach. Is not life more than meat, and the body than raiment? We know what can be done in the prevention of tuberculosis, but this, as important as it is, is only one of the innumerable ills which when conquered will show man apotheosized, looking upward, "working out the beast," fulfilling the law of self-preservation and writing the story of his immortality upon the tablet of time. This is the method of the new evolution, "the last for which the first was made."

CONGENITAL PYLORIC SPASM—REPORT OF A CASE.¹

BY

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Child, Sol G1——, 5 months old, was sent to me by Dr. R., on October 17, 1908. The baby was 9 weeks old when first seen.

Family History.—His parents are healthy and this is their first child. Labor was normal.

Personal History.—At birth, he was healthy, well-developed and weighed a trifle over 8 pounds. When one week old, he occasionally vomited after nursing. Later the vomiting spells were more frequent, not only after nursing but even on awakening from a sound sleep. The child was restless and cried very much. He was constipated, and had a very small movement after an enema. He was rapidly losing flesh. The mother consulted a specialist several times at one of the polyclinics, and her own physician, a number of times. Medicines were given but there was not the slightest improvement.

¹Read before the Clinical Society of the Alumni Association of Beth Israel Hospital, January 20, 1909.

Examination.—Baby was very weak and thin; its skin was dry and wrinkled. His expression was apathetic; his tongue was moist and clean; the heart, lungs, spleen and liver were normal; the temperature was subnormal (98° F.); his weight was 5¾ pounds.

On inspection of the abdomen, the epigastrium was found distended, the stomach was very much dilated and the lower part of the abdomen, below the umbilicus, was very much sunken.

On percussion, I could make out that the greater part of the curvature of the stomach was extended to the umbilicus. Faint peristaltic waves passing from left to right were visible after a meal, and became more marked after tapping the abdomen in the region of the stomach. On deep palpation, no tumor was felt at the region of the pylorus.

On Oct. 18, the mother's milk was examined and found perfect in every regard. The child's movement which was produced by enema, was very small, and of a dark brownish appearance, viscid in character. The vomiting was strong and forcible and looked as if no bile was present.

Treatment.—Lavage with bicarbonate of soda was tried without much improvement. The vomiting persisted and at times, the child cried sharply. I advised the mother to discontinue nursing the baby for 48 hours and give him sugar water instead. I also prescribed citrate of soda, 1½ grains and tincture of opium ¼ of a drop and 1/900 gr. of atropin to be given him after each feeding.

On October 21, the mother reported to me that the vomiting was less frequent and the child was resting easier than before, the stomach was washed out again, and I then advised the temporary use of an artificial food in small doses, followed by the use of citrate of soda, which was continued for several days, still, vomiting occurred three or four times during the day.

On October 24, I advised the mother to nurse (the milk was drawn off the six days previous) her baby at four hour intervals, each nursing lasting five minutes, none at night, if the child became restless during the night sugar and water should be given to pacify him. Saline enemas were made, it seems the movements were

somewhat larger, and occasionally some curds were seen. During this time, I gave the child small doses of pancreatin and 1-100 grain of cocain, four times during the day—the child improved slowly—vomiting persisted at intervals. It now had a movement occasionally without an enema, and it also gained in weight.

(November 8.) Three weeks later, I advised the mother to nurse her child every three hours for eight minutes, later for ten to twelve minutes. The child gained about two pounds in five weeks. Citrate of soda was still conscientiously given the child after each feeding.

The child's weight at the present day (January 20, '09) is 8¼ pounds. The mother stated that the child vomited twice in several weeks, has regular movements and is being nursed by her, and at times fed with cow's milk and water.

Pyloric stenosis is usually divided into two classes; that in which the obstruction depends upon anatomical lesion, may be congenital where there is an hypertrophy of the tissues of the pyloric ring with a narrowing of the lumen. In the second class, the stenosis is of a spastic nature, may be due to diseased mucous membrane and abnormal chemical processes in the stomach, which causes a disturbance of digestion. There may be blocking of the lumen of the pylorus with thick tough mucus.

My impression is that there was a combination of the two varieties in this case. There was a slight degree of hypertrophic stenosis and a marked spasm of the pylorus, but by careful regimen and medication the patient made a marked recovery.

While breast milk is the best food for a child's nourishment, still, it must be discontinued for several days in this class of cases and substituted by some mild food as sugar of milk and boiled water, cane sugar and water or some proprietary milk food. The food must be given in small

quantities, the first few days at long intervals. The use of citrate of sodium seems to render a great service as it dissolves the curds which are lodged in the stomach and the lumen of the pylorus, it also aids in digesting food more easily. Opium and atropine in small doses should be given on account of the relaxing effect on the muscular apparatus of the gastro-intestinal tract.

The prognosis in real hypertrophic stenosis by operative measures is not very encouraging. Ibrahim claims the mortality is fifty to seventy-five per cent. Dr. Koplik, in an excellent article on this subject (*American Journal of the Medical Sciences*, July, 1908) claims that a certain number of operative cases, in the course of time, develop a narrowing of the artificial opening of the stomach.

Again, clinicians, as Dr. Finkelstein from Prof. Heubner's Clinic, Dr. Koplik and others, report recoveries under palliative treatment.

As it is difficult to differentiate pyloric spasm from real hypertrophy, particularly in the beginning of the disease, when the presence of the pyloric tumor is not so readily appreciated and as the operative treatment does not accord excellent results, for this reason it is certainly worth while treating carefully and intelligently each case before resorting to surgery.

139 Henry Street.

A well known superintendent of a hospital for the insane has said that "the best physical means for recuperating the worn and wasted systems of the insane may be summed up in three words—heat, milk and rest, but the greatest of these is rest."—*Trained Nurse and Hospital Review*.

ETIOLOGY AND DIAGNOSIS.

Mastoid Empyema and Indications for Operation.¹—Yearsley gives the following seven indications for mastoidectomy:

1. Mastoid swelling, with tenderness on pressure, and fever.
2. Persistent tenderness, even after the subsidence of acute symptoms, a most suggestive symptom, and one on which much reliance may be placed.
3. Superior posterior meatal bulging.
4. Continuance of discharge, mastoid pain, and fever, after abortive treatment has been attempted. (Such abortive treatment consists in free incision of the membrane, prolonged into the meatal roof, hot antiseptic irrigation, the local application of heat, and the local abstraction of blood by means of leeches. If this brings about no amelioration of symptoms in 24 hours, it is useless and even harmful to continue it.)
5. The occurrence of chills, nausea, and meningeal irritation.
6. The presence of streptococci in the pus.
7. When a simple blood-count demonstrates the presence of leucocytosis, and the polymorphonuclear percentage is above normal.

The Differential Diagnosis of Rheumatoid Arthritis.²—The affections for which this disease is most liable to be mistaken are rheumatism, gout and sciatica. It is in the early and slowly progressive cases of a chronic nature, in which there is not any very marked enlargement of bone apparent, and in subacute attacks, that the chief difficulty arises in differentiating rheumatoid arthritis from rheumatism. The points which may serve as a guide to diagnosis are:—

(1) *From Rheumatism.*—(a) In the chronic form: invasion of the small joints first (notably the proximal phalangeal joints of the first and second fingers and the metacarpophalangeal joint of the first finger and thumb), fusiform swelling, symmetry of the affection, prevalence in women, affections of temporo-maxillary articulation and those of the cervical spine, pain along the

¹ MacLeod Yearsley, F. R. C. L., *The London Practitioner*, Oct., 1909.

² E. A. Dent, M. B., *The Practitioner*, Sept. '09.

clavicle, crepitation or grating felt in the joints on movement, muscular atrophy especially interossei, clamminess of extremities, tendency to spread from small to large joints, anæmia always present, family history of phthisis. (b) In subacute attacks: it may be for the first few days impossible to decide. The small joints are attacked first, without any tendency to rapid migration; the swelling is circumscribed; symptoms persist, although under treatment; there is little tendency to high temperature curve; there is very little (if any) tendency to endocarditis and pericarditis. Garrod went so far as to consider the absence of cardiac inflammation as one of the most important diagnostic features of rheumatoid arthritis, and said he had never traced either endocarditis or pericarditis in this disease.

(2) *From Acute Gout.*—In the latter there is a tendency to commence by sudden pain and swelling, especially of the great toes, with œdema and redness. It is rare in women. From chronic gout it may be more difficult, but enquiry into the history will throw light. The deformities of chronic gout may resemble to some extent those of advanced rheumatoid arthritis, but in gout there are definite attacks occurring from time to time, and usually deposits of urate of soda will be found near the articulation or in other parts, such as the ears or hands. It occurs more frequently in men, and there is little or no tendency to emaciation. It is of great importance that the two conditions should be differentiated, because the treatment of them is so essentially different. A case of rheumatoid arthritis must not be subjected to a regime so necessary in certain conditions of gout. There are some cases in which, I believe, both diseases are present.

(3) *From Sciatica.*—Where the hip joint alone is affected there is often a resemblance in the symptoms to those of sciatica. A diagnosis can usually be made by careful examination of the part. In rheumatoid arthritis the affected leg cannot be crossed over the other without causing great pain. If the foot is jarred, pain is felt in the joint. There may be considerable thickening, due to bony outgrowths. There may be grating felt on rotation. The general pain is referred more to the joint

than to the region of the sciatic nerve and down the limb.

Charcot's joint disease is thought by some to have the same pathology as rheumatoid arthritis, the suggestion being that the affection is rheumatoid arthritis occurring in a patient debilitated by the cord disease. There is in Charcot's disease no pain in the joint, although there is so much degenerative change that the functions are in abeyance. Monarticular rheumatoid arthritis, usually in one of the larger joints, may simulate a tubercular affection, and the differentiation is at times extremely difficult. The vertebral column is sometimes involved to such a degree that the pain and rigidity may lead to the belief that spinal caries is present, and great care is needed in distinguishing these affections.

Still's disease in children closely resembles rheumatoid arthritis, and is, possibly, a modified form of the disease; its nature is uncertain; it occurs mostly in young girls. It differs from rheumatoid arthritis, however, in that the spleen is enlarged and also the liver. The lymphatic glands are increased in size at first, near the joints, and later throughout the body. There is defective development, the eyes may be prominent. It is usually a fatal disease, although it may last for years.

A Practical Test for Indican in Urine.¹—The following method is commended by Askenstelt: To 10 c.c. of urine in a test-tube add 10 c.c. of the ferric chloride solution and mix by inverting the tube once; then add quickly 8 c.c. of chloroform, and extract the indigo in formation by shaking the tube 400 times, holding it in a horizontal position. After this let the chloroform fall to the bottom of the tube, then pour off most of the supernatant fluid, fill the tube nearly full with water, invert it a few times to wash the chloroform, and let this again precipitate in the tube, and pour off most of the water. Repeat twice this process of washing, taking care that no chloroform escapes with the wash water, and allowing not more than 2 or 3 c.c. of the last wash water to remain over the chloroform. Now add

¹F. C. Askenstelt, M. D., New York Med. Jour., Oct. 9, 1909.

from 13 to 15 c.c. of alcohol and mix by shaking. A clear blue fluid should result. If hazy, add one or two c.c. more of alcohol until the fluid clears up. Compare the color of this fluid with an equal quantity of a standard solution of indigo blue in the second test-tube by holding the two test-tubes in front of a white surface. This standard solution is made by pouring into the empty second tube a quantity of water equal to the amount of the fluid in the first tube, and then dropping the stock solution of indigo blue into the water, inverting the tube after each drop, until both solutions have the same amount of blue color. If this requires four drops of the stock solution the percentage is 0.0004; if five drops, 0.0005; if six drops, 0.0006, etc.

TREATMENT.

Treatment of Recurrent Hordeolum.¹

—Brav's line of treatment is the following: During the acute stages hot applications are advised. As soon as the acute stage has somewhat subsided, he applies the following mixture:

Rx,	gm.	or c.c
Tincture arnicæ	16	3ss
Tincture opii	8	3ii
Liquoris plumbi subacetatis dil.	8	3ii
Aquæ destillatæ	90	q.s. 3iii

M. S.: Apply locally by means of absorbent cotton at bed time.

After the disappearance of the styte for a period of four weeks, the following antiseptic ointment is employed:

Rx,	gm.	or c.c
Hydrargyri chloridi corrosivi	1008	gr. 1/8
Petrolati albi	8	3ii

M. S.: Externally.

This should not be merely smeared over the lids, but should be applied with gentle massage every night. Prior to the application of this antiseptic ointment hot compresses should be applied to stimulate the circulation of the margin of the lids. While an ordinary styte does not always require the correction of any errors of re-

fraction it is always an essential procedure in the recurrent type. It is often a contributory factor in the development of styes. Having corrected any error of refraction an antiseptic nasal wash is given. A teaspoonful of boric acid in a glass of water to be snuffed up, twice daily, is a good simple procedure. The constitutional aspect of the case must, of course, be remembered. Brav usually employs compound syrup of hypophosphites with good result. In order to keep the bowels in good condition he incorporates the fluid extract of cascara.

Rx,	gm.	or c.c
Extracti cascarae fluidi	16	3ss
Syrupi hypophosphati, comp.	90	q.s. 3iii

M. S.: A teaspoonful three times a day.

This simple method of treatment has never failed in his hands and even the most protracted cases have yielded to this medication within four weeks' time, provided the intelligent cooperation of the patient can be secured.

Bronchitis in the Aged.¹—Briscoe says that in the first stage expectorants are indicated. Some combination of the following may be prescribed:—

Ammonium Carbonate	gr. 10,
Liquor Ammoniaë	min. 15,
Spir. Ammon. Aromat.	min. 30,
Liquor Ammon. Acetat.	dr. 4,

and other alkalies:—

Vinum Ipecac.	min. 10
Spir. Ætheris.	min. 30

It is considered that the condition of dyspnoea is due in some measure to bronchial spasm—

Tinct. Belladon.	min. 7½, or
Tinct. Stramon.	min. 10, or
Tinct. Lobel. Æther.	min. 5

may be added with advantage. These doses are intended for administration to adults four hourly, but a much better effect is produced when half the above doses are given every two hours during the day, and the full dose four hourly at night.

¹ A. Brav, M. D., Philadelphia, N. Y. Med. Jour.

¹ J. Charlton Briscoe, M. R. C. P., The London Practitioner, Oct., 1909.

The question of alcohol is certain to be raised. As a rule alcohol is unnecessary, but it is unwise to prohibit it in the case of a person who has been in the habit of taking a moderate quantity. It should be given in definite quantities, and at prescribed intervals. A dose should be given the last thing at night in these cases with the object of promoting sleep.

In the early stage a visit should be made late at night to see if there is a prospect of a night's sleep. The cough may have worn the patient a good deal during the day, and sleep is very necessary. Probably the administration of the last dose of alcohol will be sufficient, but if not, Dover's powder gr. 20 should be ordered. Opium is contraindicated in patients with renal disease or cirrhosis of the liver, and in small children. In such cases it is better to try the effect of potassium bromide, gr. 20 (for an adult).

A vessel should be provided for the patient to expectorate into, and some antiseptic liquid placed in it. So long as its mouth is wide, and it cannot easily be upset, it does not matter what kind is employed.

Among the more serious symptoms to be looked for are rapid breathing, cyanosis and general lethargy. The former are frequently associated together. In this type of case the question of venesection has to be considered. Cyanosis may be due either to failure of the right heart or to actual obstruction of the bronchial tube by a quantity of viscid secretion. In the former case venesection is beneficial, in the latter extremely deleterious. The best indication that the right heart is dilated is an increase of the deep cardiac dulness to the right of the sternum, displacement of the apex beat to the left, and dilated and pulsating veins in the neck. If it is clearly demonstrable that this dulness extends two or three fingers' breadth beyond the right margin of the sternum venesection is likely to be beneficial. It should be performed early and 10 to 20 oz. of blood may be removed under antiseptic precautions from some vein which is easily reached, generally one in the forearm. In these cases the pulse is generally regular and not as fast as one might expect. The best results of this treatment are obtained in persons above the age of

45 years, who show signs of emphysema, but in the young, the results are disappointing. Where there is cyanosis, and examination fails to reveal signs of a dilated right heart, the best treatment is to add stimulants, such as strychnine, digitalis or ether, and endeavor to tide the patient over the next 24 to 48 hours. Digitalis is especially valuable in the cases of children. In those of persons who have very little chest expansion and who are in much distress relief may follow the application of a binder to the abdomen. Should the patient, however, not feel relief, but rather discomfort, from this procedure, it should at once be abandoned. Compression of the lower part of the chest as an aid to expiration has been recommended, but it produces marked discomfort. The administration of oxygen where dyspnoea is marked should, theoretically, be of extreme value, but usually it is not well tolerated. Patients cannot stand a stream of the cold, dry gas full on to their faces. The right way to apply the oxygen is to run the tube from the cylinder into a Woolf's bottle, the nozzle delivery tube being below the surface of the water. The end of the second tube is above the surface of the water, and leads to a glass funnel which is placed about 18 inches from the patient's face. The Woolf's bottle should be half filled with warm water, and should also stand in a large basin of water kept at 100°. By this means the oxygen bubbles through warm water, is delivered warm and moist, and is of some service, though on the whole the results are disappointing. Oxygen has some value in producing sleep, but, as a rule, is not successful in diminishing the rapidity of the respiration.

If the treatment has been carried out on these lines and there is no marked improvement at the end of four or five days, it is advisable to seriously reconsider the diagnosis and to examine the patient again as if it was the first time of seeing him.

Mayo's Modification of Gilliams Operation on the Round Ligaments.¹— Baker gives the following description of Mayo's procedure:

¹ H. W. Baker, M. D., Rochester, Minn., Boston Med. and Surg. Jour., Sept. 2, 1909.

After making a median incision, the uterus is brought up into view and the round ligaments grasped at the elective point, generally about one and one-half inch on either side of the uterus, then a pair of curved (Kelly) clamps are passed with the curved surface next to the fascia above the rectus muscle to the internal ring; here the clamps are turned, the point now being down, passed through the ring and out along the round ligament, underneath the peritoneum, to the place of election marked. Here the peritoneum is broken through and the round ligament grasped, the snap removed and the clamp pulled back, inverting the ligament on itself to the abdominal incision. After this has been repeated on the other side, the two ligaments are sutured together and the incision closed, having replaced the uterus in its normal position, being held there by its normal supports.

The Surgical Treatment of Chronic Diarrhea.¹—Gant, in a very practical paper, outlines a rather new method of irrigating the whole intestinal tract through a single cæcal opening.

Through a two inch intermuscular incision made directly over the cæcum, it and the lowermost part of the ileum are withdrawn and the edges of the wound covered with sterile gauze handkerchiefs. The cæcum is scarified and clamped with rubber covered forceps to prevent soiling of the wound when the bowel is opened. Four linen or silk sero-muscular purse string sutures are inserted in the anterior wall of the cæcum at or outside the longitudinal band directly opposite the ileocæcal valve, when the bowel is quickly opened inside the suture line by using the knife for the outer coats and the scissors for the mucosa. The bowel is grasped at the juncture of the large and small intestine and held in such a way that the ileocæcal valve rests between the thumb and fingers of the left hand. A Gant catheter guide is then introduced through the incision and carried directly across the cæcum, and then suddenly guided through the ileocæcal valve into the small intestine by the aid of the thumb and fingers, placed there for

this purpose. The guide is then held by an assistant while the obturator is removed and a catheter, No. 12, is introduced into the small bowel. The guide is then removed and the catheter is held by an assistant until it has been anchored to the cæcum by a catgut suture to prevent its slipping out. A short piece of catheter, three inches long, is then introduced into the cæcum, besides the one which enters the small bowel, for an inch or more, when both catheters are fastened together by a narrow band of adhesive plaster placed around them, on a level with the skin. The clamp is now removed from the cæcum and the purse string sutures are tied; this inverts the edges of the bowel about the tubes, each stitch in its turn causing a still further circular infolding of the bowel, all together forming a cone-shaped, valvular projection all around the catheters, which effectively prevents the escape of the fæces. The cæcum is scarified and anchored to the abdominal wall by through and through suspension sutures or by chromicized catgut stitches which include the peritonæum and fascia. The wound in the abdomen is closed by the layer method, after which the catheters are stitched to the skin or preferably retained in place by a narrow strip of adhesive plaster between them and attached to the skin. Ordinary five cent cravat clamps are snapped over the ends of the catheters to prevent leakage, after which the operation is completed by applying the ordinary dry dressings, which are held in place by adhesive strips.

Haematemesis.¹—Hæmatemesis due to ulcer of the stomach is frequently a grave complication and always a source of anxiety for the patient and his friends; prompt treatment is consequently expected from the medical attendant.

The first indication is naturally absolute rest in bed with the ice-bag to the epigastrium, care being taken to interpose a piece of flannel between the ice and the skin. Absorption of liquid by the mouth will be strictly forbidden; only frequent rinsing of the mouth with ordinary water may be permitted; however, the patient may suck small pieces of ice.

¹ S. G. Gant, M. D., New York, Sept. 11, 1909.

¹ Med. Press and Circular, Sept. 15, 1909.

To furnish to the tissues the necessary amount of water, an enema of a pint of boiled water may be given twice a day. After several days of this rigorous diet, two or three ounces of iced milk will be allowed, and the quantity gradually increased to one or two quarts.

If, on account of repeated hæmorrhage, it is necessary to continue the absolute diet for a certain prolonged period, two nutritive enemas will be ordered daily:—

Eggs (entire), No. 2.

Liquid pepton, 1 oz.

Milk, 10 oz.

Or, as recommended by Prof. Robin:—

Fresh eggs, No. 2.

Liquid pepton, 2 oz.

Salt, 30 gr.

Pepsin, 10 gr.

Laudanum, 3 drops.

Beef tea, 10 oz.

At the moment hæmatemesis occurs, a hypodermic injection of ergotin should be given and renewed two or three times in the day. In default of these injections, the following mixtures may be prescribed:—

Chloride of calcium, 1 dr.

Laudanum, 20 min.

Syrup, ½ oz.

Peppermint water, 4 oz.

Ergotin, 1 dr.

Gallic acid, 10 gr.

Syrup of turpentine, 5 oz.

A tablespoonful alternately every hour.

If the general symptoms are grave (tendency to fainting, weakness of the heart, small and rapid pulse, etc.), an injection of 10 or 20 oz. of artificial serum should be given, and at the same time an injection of spartein or camphorated oil.

Certain authorities, as MM. Dieulafoy, Terrier, and Hartmann, advocate prompt surgical interference in all these cases, but statistics are entirely unfavorable to this method of treatment, which should be reserved for cases which resist medical treatment, and they are few in number.

At the moment when the sphincter is being divulsed in rectal operations it is a good plan, as advised by Dr. L. H. Adler, to see that the patient is getting plenty of air and to stop the anesthesia for a brief period.—*Int. Jnl. of Surg.*

THERAPEUTIC NOTES.

Method of Administering Purgatives.¹

According to Pettey a purgative should never be given on a full stomach. If the demand for its effect is so urgent that there is not time to wait until the stomach empties itself, then an emetic should be given. Beginning with an empty stomach removes one of the causes of the frequent nausea, vomiting, colic, etc., and does much to overcome the objections to the use of purgatives.

The remedy administered acts as a purgative because its chemical or physical properties are such as to render it unfit for use as an article of nourishment. These chemical or physical properties render it unacceptable or repulsive to the system—an irritant. Because of the irritating or unwholesome properties, the "sentinels on guard" set up an active effort to eliminate it or its products.

The commixture of such an agent with the stomach-contents renders the entire mass unacceptable for assimilation, and therefore must be thrown off either by vomiting or passed through the intestinal canal as waste. It is either ejected from the stomach in bulk or passes on precipitately to the small intestine, where it greatly incumbers the organ and causes unnecessary suffering. Again, such a bulk of matter in the stomach interferes materially with the prompt and complete absorption of the remedies given, this delaying or rendering uncertain their action.

The first meal after the purgative should also be a very light one. After the action of a purgative, even after all discharges from it have ceased, the digestive tract is more or less enervated and disturbed, therefore it is not in condition to undertake the digestion of a full meal. If a full meal be taken at such a time, it will greatly lessen the good effects which would otherwise have come from the action of the purgative.

In conclusion, Pettey says that it is a serious error to administer an active secretory stimulant without at the same time making efficient provision for stimulation of the motor function of the intestinal

¹Geo. E. Pettey, M. D., Memphis, Tenn., *Amer. Jour. of Clin. Med.*, Oct., 1909.

canal. Except in a few rare conditions, *the motor activity is always as greatly impaired as the secretory function.* Since each of these is essential to satisfactory bowel movements, the efficient stimulation of each of these functions should be provided for in every purgative compound.

The Treatment of Certain Forms of Headache.¹—*The Headache of Arteriosclerosis.*—This is associated with the condition of the arteries, thickening of the membranes and cerebral anæmia. From time to time small blisters should be applied behind the ears. For occipital pain the actual cautery should be lightly applied to the neck every day for 25 days. Two or three tablespoonfuls of the following should be taken daily:—

℞ Sodii Glycerophosphatis,
Potassii Glycerophosphatis. ʒi.
Syrupi Codeinæ ʒiiss.
Tincturæ Nucis Vomicae mxxx.
Aquam Menthis Piperitæ ʒiiij

Misce. Fiat mistura.

Compresses soaked in some sedative lotion should be applied.

The Syphilitic Headache.—The specific treatment must be carried out, to which may be added arsenic and the phosphates.

℞ Liquoris Arsenicalis mxxx.
Sodii Phosphatis ʒss.
Aque destil. ʒx.

Misce. Fiat mistura.

If the headache is nocturnal, give 5 grains of veronal in a cachet at bedtime. In obstinate cases, perform lumbar puncture and remove 10 c. c. (ʒiiij.) of fluid.

GENERAL TOPICS.

National Vital Statistics.—The first bulletin upon the annual death rate from the death registration areas of the country, as reported to the Secretary of the Department of Commerce and Labor, shows some comparative results in the death rate from various diseases in 1907 and 1908. Among the more important were the following with the rates per 100,000 of population:

	1908.	1907.
Tuberculosis (all forms)...	173.9	183.6
Pneumonia (all forms)	136.0	161.2
Heart disease	133.3	141.7
Diarrhea and enteritis	116.0	116.7
Bright's disease	87.1	94.6
Cancer	74.3	73.1
Typhoid fever	25.3	30.3
Diphtheria and croup	22.3	24.3

The total number of deaths from all forms of tuberculosis returned for 1908 was 78,289, of which 67,376 were from tuberculosis of the lungs, 698 from tuberculosis of the larynx, 4,218 from tuberculous meningitis, 2,723 from abdominal tuberculosis, and the remainder from minor tuberculous diseases. The total number of deaths from tuberculosis returned for 1908 exceeded those of any previous year of registration, but the death rate per 100,000 for 1908 is considerably less than that for 1907. The death rate from tuberculosis showed a decline in all registration States except Colorado, Rhode Island and Vermont.

Healing in Old Tibet.—The ancients, priests and savants of Tibet, says the *Pall Mall Gazette*, were skilful physicians when almost the whole of Europe was overrun by ignorant savages or semi-civilized barbarians.

The Russian government recently received petitions from the Siberian Buddhists, requesting that medical schools should be established among them, in which the ancient Tibetan art of healing should be taught. In consequence of this strange petition the Medical Academy of St. Petersburg has been making investigations concerning the claims of the ancient Tibetan art of healing.

A Tibetan handbook of medicine which was known and used 1,200 years ago, and even then was regarded as an "ancient" and venerable source of knowledge, was used as material for the investigation. The Russian academicians have thus made the astonishing discovery that this book described drugs and cures which European physicians "discovered" many hundred years afterward.

That the doctors of Tibet so many centuries ago were not only acquainted with the secrets of the entire human anatomy

¹ Journal de Médecine et de Chirurgie pratiques.

—how many bones there are in the human body, etc., the principal nerves, namely, ninety-nine—but knew that the skin contained 11,000,000 pores. According to this venerable book, “the heart is king of all organs and the support of life.” “Sickness in general originates owing to the evil and ignorance of human beings, especially owing to their inability to overcome their passions, which disturb the healthy nourishing of the human organs. All evil thoughts have a harmful influence on the heart and liver.”

The physicians of Tibet, 1,500 years ago, employed the same means of diagnosing the condition of a sick person as the physicians of the present day—they felt the patient's pulse, looked at his tongue, etc. Among the “remedies” which they recommended were not only vegetarian diet, baths, compresses, but also massage and cupping. What is more remarkable is that physicians who did not keep their instruments quite clean were severely punished. The ancient Tibetans were in this respect extremely modern. The old Tibetan medicine book prescribes that healthy persons should “lead an orderly, sensible manner of life, avoid all excesses and irregularities, also conscientiously cherish, keep clean, both soul and body.”

A Simple Way to Test Milk.—The following process for the detection of added water or of skimmed milk in ordinary milk is more accurate than the simple use of a lactodensimeter, without the creamometer check. The whole test, says the *Scientific American*, can be made in five minutes. The result does not show whether the adulteration consisted in the addition of water or in the subtraction of cream, but as a rule this matters little to the consumer. What he wants to know is whether or not he got what he paid for.

The suspected milk is stirred with a spoon, in order to disseminate into the whole liquid the cream which may have come to the surface. Then one volume of milk is poured into fifty volumes of water. (One fluid ounce to two and a half pints.) A candle is lighted in a dark room. The experimenter takes an ordinary drinking glass with a tolerably flat and even bottom, and holds it immediately above the candle,

at a distance of about one foot from it, so as to be able to see the flame of the candle through the bottom of the glass. He then pours slowly the diluted milk into the glass.

The flame becomes less and less bright as the level of the liquid rises into the glass. The flame is soon reduced to a dull white spot. A little more liquid, slowly added so as to avoid pouring an excess, and the flames become absolutely invisible. All that remains to be done is to measure the height of the liquid in the glass, this being most conveniently ascertained by dipping into it a strip of pasteboard and then measuring the wet part. It should measure not over an inch if the milk is pure. With good quality milk, diluted and tested as stated, the depth will be about seven-eighths of an inch before the flame is lost to view.

A mixture of one volume of milk and a half a volume of water should show a depth of one and one-half inches. A depth of two inches indicates either partially skimmed milk or a mixture of one volume of good milk with one of water, and so on.

The Trained or the Untrained Anæsthetist? — Dr. Hunter Robb, of Cleveland, outlined the following suggestions at the recent meeting of the American Gynecological Society. 1, That a skilled anæsthetist holding an appointment in the medical school as one of the faculty, and in the hospital as one of the staff, be appointed at a proper salary to teach and demonstrate the administration of anæsthetics and to personally administer them to the private patients and to those in the general wards who were in a debilitated condition. 2, That in connection with a carefully prepared course of lectures on anæsthetics and their physiological action, each student should be required to administer anæsthetics to dogs or other animals a certain number of times. 3, That the lecturer next take the students the rounds of the operating rooms and point out to them the details in connection with the service and the points to observe in giving an anæsthetic to the human being. 4, That each student should be detailed to give the anæsthetic at a certain number of opera-

tions, under the guidance and criticism of the instructor or one of the more advanced students. In this way we could be assured that all of them would have at least a fair amount of general experience. 5, That the senior instead of the junior interne be detailed to administer the anæsthetic, as he would have had the opportunity of following and also of assisting in the administration of the anæsthetic in a considerable number of cases by the time he had reached the position of senior assistant. The author did not present this as a detailed plan, but in order to give an outline which could be developed according to the various conditions which existed in the different hospitals.

Common Sense Applied to the Liquor Problem.¹—Rosenwasser makes the following suggestions in answer to the question, How can the liquor traffic be conducted with the least possible amount of injury to the individual and to society?

1. Teach the people, especially children, the wisdom and importance of leaving alcohol in every form severely alone.

2. Recognizing that, in spite of all teaching, the vast majority of people will drink alcoholic beverages, regulate the traffic by just and sensible laws, and enforce the laws.

3. Insure the purity of alcoholic beverages by strengthening and enforcing the pure food laws.

4. Discourage the bar system by encouraging the establishment of restaurants having no bars.

5. Discourage the use of the stronger alcoholic beverages by encouraging the use of the milder ones, such as beer and light wine, in their place.

6. Try to put a stop to the treating custom.

7. Treat, in properly equipped hospitals, or farm colonies, the victims of the drink habit.

214 South Sixth Street.

Professional Magnanimity—Osler says if you have the sense to realize that some things are inevitable, unavoidable, and the way of the world, and if you have the sense to talk over, in a friendly way, the first deli-

cate situation that arises, the difficulties will disappear and recurrences may be made impossible. A man of whom you may have heard as the incarnation of unprofessional conduct, and who has been held up as an example of all that is pernicious, may be, in reality, a very good fellow, the victim of petty jealousies, the mark of the arrows of a rival faction, and you may, on acquaintance, find that he loves his wife and is devoted to his children, and that there are people who respect and esteem him. After all, the attitude of mind is the all-important factor in the promotion of concord. When a man is praised, or when a young man has done a good bit of work in your special branch, be thankful—it is for the common good. Envy, that pain of the soul, as Plato calls it, should never for a moment afflict a man of generous instinct and who has a sane outlook in life.

The True Physician.¹—Edmunds in his admirable address says that medicine never offered a more inviting field for work than it does to-day; and, on the other hand, the demand for the highest type of manhood was never greater. For other types medicine has no place.

If you would know the kind of men that medicine demands, then listen to this quotation from the Vedas, which describes what the ancient Hindu required of the prospective student of medicine. "He should be of a mild disposition—noble by nature—not mean in acts—possessed of intelligence—free from pride—endowed with a large understanding—with a power of memory and judgment—having a liberal mind—devoted to truth—disposed to solitude, free from haughtiness—of a thoughtful disposition—not prone to wrath—endowed with purity of behavior and compassion for all—devotedly attached to the study of medicine—free from cupidity—without sloth—seeking the good of all creatures."

Such is, indeed, a high standard, but surely medicine of 1908 can not accept lower ideals than did the Hindu thousands of years ago. No standard can be too high, for, as Cicero said: "There is nothing in which men so approach the gods as in giving health to other men."

¹ C. A. Rosenwasser, M. D., Newark, Med. Record, Sept. 11, 1909.

¹ C. W. Edmunds, M. D., Ann Arbor, Mich., Jour. A. M. A., Feb. 13, 1909.

HYGIENE AND DIETETICS.

Salt and Smoke as Food Preservatives.¹—

An editorial writer in the *Lancet* (London) says that for some time past the public taste has been gradually growing in favour of the mild-cured article, with the result that at the present moment strong salted or smoked foods are not in evidence as they used to be and are rarely called for. The ham and the bacon must be mild cured, and even butter must be fresh and absolutely without a salt flavour. This preference for the so-called mild-cured article has undoubtedly furnished an excuse on the part of caterers for the use of stronger antiseptics than salt or smoke, and antiseptics which are, comparatively speaking, tasteless, or at any rate which add no special flavour to the food. The old-fashioned antiseptics, salt and smoke, are thus sharply distinguished from modern antiseptics, inasmuch as the former not only preserved food but served also as condiments. In the case however, of certain preserved foods, although the salt may be left out, the smoke must be retained, as otherwise the food loses its individuality. The kipper, for example, is inseparable from a smoky flavour, as is also dried haddock or dried salmon. We have heard that a "smoke essence" is employed to impart the kind of palatability associated with properly smoked food, but such practices, coupled with the use of antiseptics, would readily account for the regrettable fact that cured articles of diet are not now up to their former standard. Assuming that the mild-cured article, and as a particular example we may choose butter because it is an indispensable article of the dietary, is free from objectionable antiseptics, it is still left more helpless against the attacks of micro-organisms than were the old-fashioned cured food-stuffs. Experiments have, in fact, shown that the addition of salt to butter is a factor of great importance from the point of view of germs. In unsalted butter the growth of micro-organisms is more vigorous and continues for a longer time than is the case with salted butter. Mycelial fungi in present disappear entirely after a while in salted butter, while in fresh or unsalted

butter they multiply rapidly. The quality of butter appears to be improved by a small percentage of salt (say 2.5); it encourages the development of a flavour which makes butter an attractive article of food and it acts as a safeguard. Altogether there would appear to be certain valid reasons for thinking that the public preference for the mild-cured article may be an error of judgment, and there certainly is much to be said in favour of the old policy of preserving foods by salt and by smoke.

Pineapple as a Medicine.—The medical value of pineapple has recently (*Southern California Practitioner*) been the subject of considerable inquiry among physicians, and in Hawaii experiments have been made to determine something of these properties. It has been found that the fruit of the pineapple contains a digestive principle closely resembling pepsin in its action, and to this is probably due the beneficial results of the use of the fruit in certain forms of dyspepsia. On the casein of milk pineapple juice acts as a digestive in almost the same manner as rennet, and the action is also well illustrated by placing a thin piece of uncooked beef between two slices of fresh pineapple, where in the course of a few hours its character is completely changed.

In diphtheritic sore throat and croup pineapple juice has come to be very largely relied upon in countries where the fruit is common. The false membranes which cause the closing of the throat seem to be dissolved by the fruit acids, and relief is almost immediate.

Diet in Typhoid Fever.¹—Coleman gives an interesting account of his experience with a liberal diet in typhoid fever, and says that the diet used, consisting in the main of milk, cream, milk-sugar and eggs, is a difficult one to give to patients, on the whole rather more difficult than milk. Intelligent and reasonable persons, however, take it readily when the objects of the diet are explained to them. In other instances, patients are not told that the milk differs from what they have been accustomed to taking. The greatest diffi-

¹ The *Lancet*, London, July 17, 1909.

¹ Warren Coleman, M. D., New York City, *Jour. A. M. A.*, Oct. 9, 1909.

culty has been experienced with adolescents who refused to take the diet because patients near them were allowed other food. When convinced that the reason for not taking it was sheer stubbornness, Coleman has insisted on carrying out the order. When he has even suspected that the diet was disagreeing with the patient, he has modified or stopped it, but always have cautiously resumed it.

The food has been given at two-hour intervals, except that patients have not been awakened at night. The cream has usually been added to the milk, in the proportion of 2 ounces cream to 6 ounces milk, though a palatable ice-cream may be made with cream and milk-sugar. The milk-sugar should be given in small quantities at first—a tablespoonful to the glass of milk—and gradually increased to 4 tablespoonfuls. Many patients will take 2 ounces of cream, 6 ounces of milk and 2 ounces of milk-sugar several times a day, but this is a rich combination. At other times the milk-sugar may be given in tea, coffee, or cocoa, or it may be made with an egg into soft or baked custard. A milk-sugar lemonade may be given once or twice a day. If the water and sugar are boiled for two minutes before the lemon juice is added, 4 ounces of milk-sugar may be put into 8 ounces of lemonade. If the lemonade is not sweet enough, a tablespoonful of cane-sugar may be added. The eggs may be given soft boiled, soft poached or shaken up in milk, with or without whiskey.

While the author believes that the foods mentioned must form the basis of the ideal diet for typhoid fever, much remains to be done in working out details. The greater the variety and the more palatable the dishes presented to the patient, the more content will he be to adhere to the prescribed diet. We have not yet been able to devote much time to the selection of variety in foods and dishes, but this is one of the questions which soon will engage our attention.

CONCLUSIONS.

1. The practice of partial starvation, at present followed in the treatment of typhoid fever, is highly detrimental to the patient's welfare.

2. It is not only desirable but necessary that the typhoid patient be given sufficient

food to cover his energy expenditures.

3. The amount of food required for this purpose will vary with different patients, but may be estimated approximately on the basis of 40 calories per kilogram of body weight per day.

Alcohol as a Therapeutic Agent.—

In spite of the many discussions on this subject, says the *Jour. of the A. M. A.*, the question is still open as to whether alcohol should ever be used as a therapeutic agent.

The whole general discussion of alcohol is grossly unfair to it as a component part of the materia medica. Who would think of describing the poisonous effects of large doses, or the dire effects from the prolonged use, of some drug of the Pharmacopeia other than alcohol, when the discussion was on the value of that drug as a therapeutic measure? Large doses of alcohol are harmful; repeated large doses are pernicious; and an alcohol habit is ordinarily bad physiologically, pathologically, and morally. But if we are to be fair to alcohol as a drug we must discuss it as we would any other drug, viz.: describe its physiologic action in therapeutic doses, the indications that it may therefore meet, and the undesired symptoms and conditions that it may successfully combat. Next we must discuss the possibility of some other drug acting as well to meet these indications. In other words, are there other drugs that act physiologically similar to alcohol? Next, does this drug cause the alcohol habit if used therapeutically, and, if so, how frequently?

To answer the last question first, very rarely does any patient acquire the alcohol habit from its medicinal use during an acute disease. If such has occurred, it was because of a tendency to the habit, inherited or acquired, and it was only a question of opportunity or environment for it to develop. A physician should not be excused, except perhaps in rare instances, and that generally in old age, who orders alcohol for a chronic condition, and the legitimate use of alcohol in chronic conditions is so limited as to be hardly a subject for discussion.

Bacteria in Pasteurized Milk.—

M. J. Rosenau, in *Annals of Medical Practice*, states that pasteurized milk must

be handled with the same care as raw milk, if not with greater. Pathogenic bacteria grow more readily in milk which has been heated than in raw milk. The germicidal properties of the milk are destroyed by high heating, and finally the surviving bacteria do not have so hard a struggle for existence in the heated milk. It must not be forgotten that pasteurization kills only the major portion of the non-spore-bearing bacteria, and that a large number of micro-organisms remain, and, if permitted to grow and multiply, they may occasionally produce undesirable qualities or perhaps poisonous properties in the milk.

Infant feeding.—It has been found (*Hygiene and Physical Education*) by those who have studied the matter that one of the most potent causes operating to prevent or diminish maternal nursing is the ignorance of the mother as to what breast-milk really means to the child. For this state of things the remedy is instruction. Mothers need to be told in no uncertain tones that if they are able to nurse their babies and do not do so, they are morally responsible for the sickness and death resulting from their neglect. Few women possessed of any maternal instinct will refuse to nurse their children if this is made clear to them.

SOCIETY PROCEEDINGS.

EASTERN MEDICAL SOCIETY OF NEW YORK.

Stated Meeting Nov. 12, 1909, President Wolff

Freudenthal, Presiding.

Nomination of Officers for the year 1910.
Scientific Session.

I. Presentation of Specimens and Report of Cases.

- (1) *Two Cases of Influenzal Meningitis*, by Dr. A. Hymanson.
- (2) *Early Diagnosis of a Case of Carcinoma of the Sigmoid*, by Dr. G. A. Friedman.

II. Papers.

(1) *Preclimacteric Uterine Hemorrhage*, by Dr. M. Rabinovitz.

Dr. L. J. Ladinski said in discussion that the paper read by Dr. Rabinovitz certainly was very interesting, and showed considerable study and preparation, but its title should properly have been termed "Uterine Fibrosis." The speaker had hoped that the paper would be devoted to the subject of the title "Preclimacteric Uterine Hemorrhage," which to his mind was one of the most interesting and important in gynecology, and equally instructive and interesting to the general practitioner. The writer had presented a most interesting and academic discussion as to the question "what is fibrosis of the uterus?" and had concluded that fibrosis of the uterus *was* fibrosis of the uterus, whether due to arteriosclerosis of the uterine vessels, or hemorrhagic infarcts, or the result of old inflammatory processes, still remaining a mooted question.

He had been glad to hear the speaker state that some of the German writers coincided with his (the writer's) views; there were other foreign authorities who differed with him; the speaker confessed that he was not absolutely convinced that the conclusion arrived at by the writer was absolutely correct. He was rather inclined to favor the theory of those observers who claim that fibrosis of the uterus is the result of an antecedent inflammatory condition of the uterus and adnexa.

It seemed to him that if the theory of the writer—namely, that fibrosis of the uterus is a physiological sequence and not the result of pathological changes—be true, the number of cases would be legion. Every East Side woman over 40 years of age would have to have her uterus removed for fibrosis, while, as a matter of fact, the speaker in his experience had found that a comparatively small number of patients suffering from preclimacteric bleeding had fibrosis of the uterus.

Formerly, this condition was known as hyperplasia or senile endometritis, or it was attributed to some constitutional disturbance. It was very intractable to treatment; medicine was absolutely of no avail, and even repeated curettages were inefficient. It was for this class of cases that steaming of the uterine cavity was tried and also given up.

Progress, therefore, had been made in clearing up this formerly obscure lesion, and to-day the exact histological condition of the uterus which produces bleeding is known, and it is realized that the only remedy is removal of the uterus.

As to operating abdominally or vaginally, that would depend upon the predilection, skill and experience of the operator. The speaker felt sure the last word on the subject had not been said, and that the views of the present writers might be changed in the near future. The laboratory investigations do not seem to coincide with the clinical observations. The speaker said it seemed that if the condition were a sequence to the physiological functions of pregnancy and labor, many more cases would be seen; at any rate it certainly was a sub-

ject that deserved further study and attention, and the writer was to be congratulated upon selecting a field of investigation which was so worthy the attention of specialists in that line of work.

The speaker said he wished to say a few words regarding the subject of preclimacteric uterine hemorrhage when due to other causes than fibrosis of the uterus. Too much stress cannot be laid upon the importance of uterine hemorrhage, whether menstrual or intra-menstrual, in a woman about to arrive at menopause. In spite of the fact that for many years gynecologists have cautioned general practitioners to regard every case of uterine bleeding at this age with suspicion as regarded malignancy, yet cases are being constantly met in practice where climacteric hemorrhage is looked upon with indifference and treated with questionable palliative means, not mentioning the conditions frequently overlooked in uterine hemorrhage; as for instance, uterine benign tumors, uterine polypi, and displacements, and the various other local and constitutional causes. He wished to lay particular stress on hemorrhage due to epithelioma of the cervix, or adeno-carcinoma of the uterus. He thought if patients suffering from the above conditions had a chance for life, early diagnosis and operation, and that alone would give it.

Yet, how frequently these patients apply to the specialist when the disease has advanced so far that they are beyond surgical aid, because the uterine hemorrhage has been regarded as insignificant. For example; the year before a member of the society had referred to the speaker a case for examination, a woman about the climacteric, who had suffered for some time from uterine hemorrhage and whose uterus was somewhat enlarged. Upon examination there was found a roughened uterine interior; a small portion was removed for microscopical examination, as malignancy was suspected. The pathologist's report was adeno-carcinoma. Immediate hysterectomy was advised, but the patient objected to so serious an operation and consulted others. The surgeon whom she afterward saw had diagnosed the case as one of simple endometritis—probably in good faith, as externally there had been no evidence showing malignancy; but had he been taught to regard every case of bleeding in a climacteric as suspicious, he would have taken the trouble to examine the uterine cavity, and would have discovered the nature of the disease. He had treated the patient palliatively for some time, until one day she had been taken with a severe *intra-uterine* hemorrhage, which had caused collapse, and the physician who had originally sent her to the speaker had been called in. The patient had been taken to Beth Israel Hospital and a pan-hysterectomy performed. There had been no recurrence.

It had been fortunate for this woman that she had had a profuse uterine hemorrhage which had necessitated her immediate removal to a hospital; otherwise, she probably would have gone on under palliative treatment until there would have been no hope of recovery.

NEWS ITEMS.

American Electrotherapeutic Association.—The nineteenth annual meeting of this organization was held in the United Engineering Societies' Building, New York, on September 28th, 29th and 30th. An excellent programme of papers was presented, and there was an exhibition of electrical and scientific apparatus by leading manufacturers which was very complete and interesting and embodied the latest as well as standard features in electrotherapeutic appliances. Officers for the ensuing year were elected as follows: President, Dr. T. D. Crothers of Hartford, Conn.; vice-presidents, Dr. T. H. Cannon, of Baltimore, Md., and Dr. F. E. Peckham, of Providence, R. I.; secretary, Dr. J. W. Travell, of New York, re-elected; treasurer, Dr. R. J. Nunn, of Savannah, Ga., re-elected; board of trustees, Dr. Charles R. Dickson, of Toronto; Dr. M. W. Brinkmann, of New York; Dr. H. F. Pitcher, of Haverhill, Mass.; Dr. F. B. Bishop, of Washington, D. C.; Dr. E. C. Titus, of New York; and Dr. Frederick H. Morse, of Boston. The next annual meeting of the association will be held in Saratoga, early in September, 1910.

The Study of Infant Mortality.—The American Association for the Study and Prevention of Infant Mortality was organized Nov. 13, as a result of the conference arranged by the American Academy of Medicine, for the discussion of that topic and which completed a two days' session at Yale University. The officers are:

President, Dr. J. H. Mason Knox, Jr., of Johns Hopkins Medical School, Baltimore; first vice-president, Prof C. E. A. Winslow, Biologist in Chief of the Laboratory of Sanitary Research, Massachusetts Institute of Technology; second vice-president, Homer Folks, Secretary of the New York State Charities Aid Association; secretary, Dr. Henry I. Bowditch, of the Harvard Medical School; executive committee, the president and officers and Dr. Mary Sherwood, Baltimore; Dr. J. S. Neff, Director of Public Health and Charities, Philadelphia; Robert W. Bruere, New York; Dr. Helen C. Putnam, Providence, R. I. and Dr. John S. Fulton, Secretary General of the Congress on Hygiene and Demography, Washington.

American Medicine

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PUBLISHED MONTHLY BY THE AMERICAN-MEDICAL PUBLISHING COMPANY.

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Complete Series, Vol. XV., No. 12.
New Series, Vol. IV, No. 12.

DECEMBER, 1909.

\$1.00 Yearly
In Advance.

A Year in Retrospect.—Another year is almost ready to pass into history, and in a few days we shall enter upon the tenth of the Twentieth Century. As we sum up the achievements of 1908, it becomes evident that while this year will never be notable for great or startling discoveries—for of these it has been quite barren—it has been none the less a profitable one of hard, consistent work and of slow, but substantial progress. The spirit of discontent and unrest has been less in evidence in medical affairs, and while economic conditions within the profession are little if any better, there is a widespread sentiment of optimism and hopefulness that augurs well. Those who have been working consistently for the good of the profession have had the satisfaction of seeing certain tangible results coming at last from their efforts, and while the average medical man has been inclined at times to question and criticise some of the methods employed, there is every reason for feeling grateful for the good that has actually been done. In spite of the dire results predicted for the profession from bossism and domination by certain influences, we are free to say that we believe that the danger that once existed has passed for all time. Medical men are not fools. They know good when they see it and bad is just as patent. They are never going to suffer any pernicious dictation very long, for independence in belief, thought

and practice is too highly prized. They are human, however, and subject like all men to the psychologic influence of leadership. It is foolish, however, to say that systematic organization—the expression of the desire for fellowship and association—can do any permanent harm. Every physician thinks too highly of his calling, and aspires too sincerely to achieve the highest degrees of efficiency, to ever be misled—if at all—more than temporarily. No, the American physician is in no danger from pernicious domination, for his common sense, if nothing else, will protect him. In the meantime we all bid fair to derive a great amount of good from our various organizations. If we do not, or suffer the slightest harm, the fault will be entirely our own, and that is all there is to it.

During the past year the important part that preventive medicine will henceforth play has been emphasized more strongly than ever. Medical practice of the immediate future will inevitably tend more toward the prophylaxis than the cure of disease. Everything points in this direction and while we are not ready to believe as some do, that the trend of affairs means the early socialization of the medical profession, we do believe that State medicine is bound to constitute a large part of future medical practice. Since we are confronted by conditions instead of theories, it behooves every medical man to take an

active part in the working out of the destiny of the profession. Sound, effective organization offers each and every one of us an opportunity to be a factor in solving the great problems before us; and by sound, effective organization we mean association in county, state and national societies that shall give every individual a voice on every important question, and have no other object than the "greatest good for the greatest number."

The past year has demonstrated the wisdom of the Pure Food and Drug Law, and while various occasions have arisen that showed possibilities for perfecting the law, in the main it has proven one of the most important and far reaching pieces of legislation ever enacted. As we have repeatedly said, unlimited credit belongs to every person who aided in the framing and passage of this law that already has been productive of so many tangible benefits for the American people. The public will probably never know how much the physicians of the country had to do with the immediate creation of the Pure Food and Drug Law, but there are many good people who do know. If the actual facts ever do come out, they will only emphasize again the guardian-like relation which the physicians of the country bear to the people.

In conclusion, we would again point out that 1909 has been a year not of spectacular discoveries, but of substantial progress, a year that has brought infinite benefits to mankind the world over. It has shown the earnest and unselfish devotion of the medical profession to humanity, and demonstrated, if intelligent people will only pause long enough to see it, that the rank and file of the profession are being treated most unfairly, that the new order of pre-

ventive medicine, and the enormous growth of charitable institutions are pauperizing the very ones who have been most responsible for the benefits so generally enjoyed. A little thought will convince every intelligent person that qualified physicians have a more important work to do than ever, but it is a work that by its very nature must be a part of administrative government. Therefore, early provision for broadening the scope of our public health agencies, in order to utilize in every possible way for the common good, the knowledge and skill of the whole medical profession, will be the most important step that society has ever taken. The year just passing has emphasized the need and the possibilities. May those just before us witness the consummation!

The Standardization of Antiseptics

is the subject of a highly important series of reports that appeared recently in the *Lancet*, London (Nov. 13, 20 and 27, '09). The inquiry was undertaken by the *Lancet*, aided by a distinguished board of investigators, because of the unsatisfactory conditions that had long characterized the sale and exploitation of disinfectants in Great Britain. Probably no class of substances fill a more important place in modern medicine and yet there is hardly any class concerning which so few definite facts are known. The *Lancet* reports point out the difficulties that exist in establishing satisfactory standards, but urge their necessity even though they are approximate, in order to safeguard the public along lines that obviously are of the very greatest importance. The investigation appears to have been exceedingly thorough, including both chemical and bacteriologi-

cal tests, and a large amount of valuable data was secured. It was shown that the many disinfectants being sold to the English public varied greatly in their germicidal action, and several of those believed to have especial potency were in fact possessed of very little if any antiseptic value. The seriousness of the situation needs little comment. To place confidence in a disinfectant as a result of the fictitious claims of its promulgators, creates a false sense of security that is dangerous in the extreme. The condition is indeed of great moment and although the researches of the *Lancet* Board did not serve to develop as definite fixed standards as probably will be established at an early date, there can be no question that a long step has been taken forward and a clearer view obtained of relative germicidal power than has ever before been possible.

The problem of antiseptic standards is not limited to Great Britain. In America the situation is more complicated if possible than it is abroad, for there are here a great many more disinfectants or antiseptics, so-called, seeking public patronage. In the United States the sanitary idea, with the widespread use of disinfectants has taken a remarkable hold on all classes of people. To many, it has actually become a sort of fetich. That this state of affairs under proper conditions should be fostered every one will agree. But to go on preaching and teaching the use of antiseptics and disinfectants and to have no actual knowledge of their germicidal powers, is not only ridiculous—it is reprehensible from every standpoint.

The imperative need, then, before us, is to establish definite standards for the germicidal power of all substances being

sold as disinfectants. There is a considerable class of mild antiseptic solutions or washes which do not fall under the head of disinfectants. These are used principally for oral and nasal hygiene and while not possessed of marked germicidal power, do have an inhibitory action on germ life; through their endosmotic, soothing and antiphlogistic effect on mucous membrane they are often extremely beneficial and useful in their field of activity. To measure the value of such products on the basis of their germ killing powers would be unfair, for they are principally serviceable in other capacities. But the disinfectants referred to in the present discussion are those used for their bactericidal effect, and no other. Such uses under our present knowledge of the role played by bacteria in many diseases are often of the very greatest possible importance. Consider typhoid fever, tuberculosis and countless other highly communicable affections. One of the all important obligations entailed by their diagnosis is the immediate disinfection of every bit of ejecta and excreta, for it is definitely known that effective destruction of the organisms in such material constitutes one of the most vital details in preventing the further extension of the particular disease. If the disinfectant used is trustworthy, does its work thoroughly, and meets every requirement, it is a protective agent that merits every confidence, but if it fails to destroy germ life as expected, it is not only "a broken reed" as a protective force, but it is a real menace, since it gives a false sense of security, allays just fears, and leads to indiscretions that would never be dreamed of but for misplaced confidence. Similar conditions are continually occurring in the home, public institutions, offices, hospitals and everywhere that disinfection is recog-

nized as the essential detail of the modern scheme of prophylaxis.

The standardization of germicides must therefore, soon come to pass. Already a considerable amount of practical work has been done in this direction, and a very valuable paper was read on the subject at the last meeting of the American Public Health Ass'n. One plan is to take carbolic acid as the standard and designate other antiseptics in terms which will instantly indicate their comparative potency. In other words, as a result of careful investigation the bactericidal power of a given antiseptic solution will be carefully compared with a standard solution of carbolic acid. The strength of solution required to do the same work of the standard carbolic solution, and the strength of the standard solution furnish the terms of the formula. The resulting coefficient represents the so-called carbolic efficiency. At the present time there are no official standards. Those that are employed including the terms used, are more or less arbitrary, but incomplete and relative as they are they possess certain real scientific value, and are serviceable to a corresponding degree.

At an early date the U. S. Government authorities should give this matter the most thoughtful attention. Provision should be made without delay for the proper bureau to take up this important work and establish standard bacteriological tests. Then, every product for which antiseptic or disinfectant action is claimed should be examined and its relative efficiency determined. This antiseptic efficiency as determined by government tests should be made a necessary part of the label, in order that every purchaser may know the

true germicidal value of the various antiseptics at his command and can select the one that is best adapted to the work in view.

All in all, there is everything to be said in favor of standardizing our antiseptics, and nothing in opposition. That it was not done long ago is a cause for genuine regret, for if there is real value in the antiseptic idea—which few intelligent people will deny—it is reasonable to believe that much time, money and effort have been wasted by employing useless germicides.

Moving pictures in the teaching of surgery will probably soon become an assured fact. It only requires an ordinary imagination to conjure possibilities that would completely revolutionize many of the teaching methods now in vogue. Already moving pictures are being utilized in some of our schools—for zoological instruction more particularly at the present time—but now that the manufacture, exposure and reproduction of these pictures have been placed on a practical basis, there is no reason why this simple but none the less wonderful invention should not be used scientifically in many diverse ways. For instance, a surgeon may be the originator of some special operation. Through special study, application and experience he soon becomes the recognized authority or expert in that particular operation. Heretofore, medical men desiring to acquire facility with any particular method have been obliged to make pilgrimages to the clinic or hospital of the recognized expert. Soon this will be unnecessary for each medical school can have its own collection of films showing classical opera-

tions by the world's master surgeons. In a practical no less than a sentimental sense this will be a splendid thing, for every student will thus be able to study and observe first-hand each famous surgeon's methods; not only coming in close relation with each operation itself, but under the most ideal conditions, that is as actually performed from start to finish by the man best qualified to demonstrate his particular technique. The more one dwells on the possibilities the more they broaden. No small medical school need feel the handicap of lack of surgical material much longer. In fact with a well chosen series of films, depicting operations by the country's leading surgeons, operative technique can be much better and more accurately taught than by our present methods. Every physician knows how unsatisfactory are the practical surgical courses in many colleges, a condition due in most instances to lack of cases suitable for demonstration purposes. With, however, a series of films properly selected at the outset and added to as opportunity offers, the smallest and most unpretentious medical school can soon train its students as well in surgical technique as its most successful metropolitan competitor. Other branches of medicine will receive similar benefit as the feasibility and practicability of the moving picture idea becomes an established detail of medical instruction. The consummation of the whole proposition is simply a question of time and the regulation of cost, but it seems improbable that business enterprise will long allow such a promising field for investment to remain dormant.

We have not spoken of the value of moving picture films for recording and preserving for all time in tangible form

examples of the work of the world's great surgeons. Some of our prominent, endowed, scientific institutions could well undertake the collection of films and preserve them solely for this purpose. That they would become priceless in time, goes without saying. The whole question is immensely interesting and while the foregoing thoughts are almost entirely speculative they are sure to materialize. Then to use a very trite expression from the French, "we shall see what we shall see."

Beer has been declared a food by a special commission created by the *Hospital* of London, so the rest of the world must now sit up and take notice, particularly our own societies for the study of inebriety and most particularly Dr. W. S. Hall of Chicago, who is quite positive in his assertion that alcoholic beverages are not foods in any sense of the word. Moreover, it is stated that beer is a perfectly safe and sane food, and commissions are not in the habit of making assertions except the evidence warrants. Of course we must expect an avalanche of criticism to fall upon the heads of the poor commissioners who will be told that such dreadful facts must be kept from the common herd or there will be a stampede to the breweries and an orgie of liquid gluttony. We as a profession are chiefly concerned with learning the truth of everything affecting health, and then we can modify our ethics to conform to the facts. We are not called on to advise beer drinking, and indeed the facts compel us to advise abstinence, as a general rule, particularly for the youthful. It does no ethical harm to acknowledge the food value of beer or dog-meat but it is folly to deny facts now so widely accepted. The manner in which the underfed will deliberately spend

five cents for beer instead of bread must be explained, for such habits have a meaning. If there is a food value in beer, it may have become an instinct to use it—an instinct based on the experiences of the thousands of years that brew of some sort has been used. If it is true, we are only injuring some convalescents by depriving them of a readily assimilable food. Therapy demands the facts, so let us have them. We await the proof that alcohol is not a food. In the criticisms so far published we notice the same old dogmatic rot which has always destroyed the value of the discussions. The latest nonsense is imputing awful damage to the "acid salts" of beer, as though there was the least evidence of it.

The growing popularity of prize fights is a phenomenon of considerable medical interest, irrespective of the question of proper methods of training. The tremendous increase in all athletic sports has completely changed the character of the audiences found at pugilistic contests. A generation or two ago it was not respectable to be associated in any way with them, but among the spectators now, there are representatives of almost every class of society, and no one is apparently the least shocked at the exhibitions of man's most primitive passion. The pugilists have so accustomed themselves to the shock of blows and are so skillful in avoiding those aimed at vital or painful spots, that they do not suffer much if any pain, though some of their immunity is doubtless due to a defective sense of pain characteristic of the lower races. This fact probably accounts for the equanimity with which the spectators view two human animals pound each other in a manner which would be fatal to

the ordinary mortal. The ruling idea seems to be admiration of extraordinary skill, and the applause is of the same nature as that accorded any artist no matter what his accomplishment may be. The psychology of the admirers of the sport is such that legal repression seems to have the opposite effect than intended, and it is now a regular recognized profession. This is the more amazing in view of the fact that the whole trend of civilization is in the direction of exalting the mental faculties and more or less ignoring the physical. Is it possible that we are drifting to a condition in which the vast majority of us are to take no part whatever in athletic sports except that of a spectator, cheering for one of the specially trained participants? If so, it bodes no good for our future physical efficiency. Our colleges may well think over the matter for the ordinary contests of students differ in no essentials from the exhibitions of pugilists; the work of a few being witnessed by the many. Perhaps the growth of pugilism has had its origin in college athletics. It certainly is time to consider the frequent suggestion, that the healthy development of our youth demands the abolition of all sports except those in which every student can take part. Specialization is bound to reap a harvest of ills.

The ultimate results of pugilistic training should be given more publicity. The career is naturally a very short one, generally ended before thirty-five, for the contests require the quickness of youthful nerves. The experts are not necessarily fit for anything else and frequently drift into abject poverty after the ring career is ended. Much of the distress is no doubt due to the alcoholism inseparable from the associations, but it is time to inquire whether

the tremendous exertions of training do not cause permanent damage to nerves and arteries. No animals are built for such work and the over-exertions are often said to result in nervous exhaustion of sufficient grade to prevent making a living. Whether arteriosclerosis results has not been stated though it is presumable. Surely few professional pugilists of note have ever distinguished themselves by intellectual achievements, though that may be due to the original defect which led them into the profession. The whole subject is full of interesting details which must be worked out to determine whether the training of college youths for excessive exertion is ultimately injurious as so frequently asserted. That the method produces a superb condition of a physique naturally robust is beyond question, but the wisdom of it all is still *sub-judice*. There is a strong reaction against producing physical conditions of no special use except to win youthful contests and probably inimical to success in the struggle for existence, the large athletic heart, for instance. The greater concern is the frequency with which we hear of athletic nervous exhaustion which prevents mental training, and that is where our investigations should center. The large number of ex-pugilists furnish ample material for study—and this is the scientific silver lining to the cloud of prize fights.

goes on for many pages describing the phenomena which have been so foolishly grouped into a separate personality, beneath yet in many ways superior to the consciousness. When we had the temerity to object to a system of therapeutics directed against a thing whose very existence is a myth, the remarks were somewhat offensive to Dr. Dickinson S. Miller, Professor of Philosophy in Columbia University, who came precious near intimating dense ignorance, or worse, in those with whom he disagreed—we cannot tell which. In the letter to the *N. Y. Times*, Feb. 12, 1909, to which we have once before referred, he writes:—"to say that in the book (Worcester's) the sub-conscious mind's 'very existence is assumed' is another remark I prefer not to characterize." It does seem that Dr. Miller should now try to be like the good shoemaker and stick to his last, and not dabble in medical and psychological matters again—at least so intemperately.

A denial of the existence of mind as an entity has been made by Dr. Victor C. Vaughan, in his address as President of the Association of American Physicians (*Science*, May 21, 1909). "We have heard much of late concerning the influence of mind upon the body, and many who speak upon this subject seem to assume that there is some entity called mind, that controls the body to which it is superior and apart from which it may exist. This dualistic doctrine is as old as the philosophy of Plato; it always has been and remains to-day a dogma without scientific support, and as a hypothesis it has led to the discovery of no scientific fact. Every attempt to apply it to the treatment of disease has led to the development of conscious or unconscious

The mythical subconscious mind, which has been the stock in trade of the dilettante psychologists of several healing cults, has been cruelly repudiated by a professional psychologist, Hugo Münsterberg, in his recent work, *Psychotherapy*. He says, "the story of the subconscious mind can be told in three words; there is none."—though he

charlatanism.**" All of which we recommend to the attention of Professor Miller, as well as Vaughan's remarks upon the impossibility of having functional diseases, unconnected with organic changes.

Munsterberg's Psychotherapy is one of the few really sensible English books so far written upon the great subject of suggestion and he shows that the principle is precisely the same as in all the mystical medical cults which have existed ever since man himself. It is a refreshing antidote to the puerilities of the Christian Science and Emmanuel fads. If any objection can be brought against Münsterberg it is the fact that he seems to fall into the error of all other specialists and gives undue weight to some psychical phenomena which are almost within the limits of the normal. He also reports temporary disappearance of symptoms and unwittingly gives the impression that the results are permanent. There is also the same danger to patients as with all the other amateur therapists—the basic condition of the nervous tissue is ignored and the symptoms suppressed. All his histories have marks which show the family resemblance of the introspective neurotic and it is a pity that more attention is not given to the causes of the curious thing we call neurasthenia or psychasthenia. It is an article of faith that the rush and roar of civilization are causing this nervousness, but Münsterberg rightly denies that there is any such evidence, and anthropologists have repeatedly shown that the condition is far more common among wild savages, compared to whom civilized neurasthenics are almost phlegmatic. He takes a step in the right direction by emphasizing the fact that every change in function is due to a prior organic change in the cells or molecules and each action is followed by

a material change in tissues. Now let us find out what the organic changes are and what causes them. Then prevention and cure will be rational and on a solid foundation of observed facts.

The racial type of neurasthenics is a matter which has not yet been mentioned, except the old observation that Hebrews are extraordinarily susceptible. We have been studying classes too much. Clergymen, for instance, are said to be great sufferers, but it is not surely known that they are any more liable to nervous breakdown than other intellectual workers. The finer the machinery the easier it is deranged and the more it must be protected from harm, and it is a fact that the stolid coarse fibered average man is healthy and happy in conditions which will drive the fine spun to suicide. So it is quite evident that we must expect neurasthenia mostly among those who live by their nerves and not by their muscles. What is now needed is the reason why these classes are so much worse off in America than their cousins in Europe. It has been said that American neurasthenics are mostly of the types from northern Europe, but there is no proof of it as yet. It is high time the matter be settled by observation. Are they mostly tall or short, dark or light, heavy or spare? Such observations may prove that American neurasthenia is largely a climatic factor after all,—not due to the strenuous life and not always due to defective food. Why cannot our neurologists take up this matter of racial types and settle it one way or the other?

The mystery of hypnotism is as far from explanation as ever. Charcot and the Parisian School taught that it was an artificially produced neurosis akin to hysteria, while Bernheim and his followers strongly

maintained that it was normal sleep induced by suggestion. Then, some years ago Bechterew of St. Petersburg maintained that it was a modification of normal sleep, and in its deeper stages allied to somnambulism and other phenomena of abnormal or partial sleep, in which the perceptive faculties are capable of receiving and remembering impressions something like dreams. Now Münsterberg comes with another theory that it is merely a state of artificially produced increased suggestibility of normal tissue, differing in no respects from that of hysteria in which the increased suggestibility is a symptom of a pathologic change. He sees no relation to normal sleep, which is marked by a decrease of sensitiveness and selective attention which are both intensified in hypnotism. All this diversity of opinion would be deplorable if hypnotism were of more use, but as its chief field is the modification of symptoms, while ignoring the disease, it is just as well to limit the use of it to those practitioners who can and will treat the basic organic causes at the same time. The whole subject has been so tainted by quackery and fraud, that conservative physicians are apt to look askance at it anyhow, and are more than ever of that tendency now that laymen have been so active in its exploitation. If it is of wider use, it has been unfortunate in the selection of its friends, and as its greatest effects are seen in the neurotics whose nervous vagaries make their testimony unreliable, we must expect it to be under a cloud for some time to come. Bad associations corrupt good morals in medicine as well as in other affairs and we hope that hypnotism will become respectable and let us become more acquainted with it.

“**Ill founded opposition**” certainly describes the objection that the good people of Lakewood, N. J., have made to the sanatorium for children recently established in their town. The institution to which the rather far fetched and somewhat questionable name “Preventorium” has been given, is designed to provide a modern line of systematic treatment for children who show predisposition to tuberculosis. It has been created under the direction of the most expert students of the tuberculosis problem and in every way bids fair to be one of the most serviceable institutions in the land. It certainly attacks a great proposition at the one point that promises greatest prospects of success and the evolution of the plan marks one of the most noteworthy achievements in the practical conflict with tuberculosis.

Unfortunately the residents of Lakewood have raised the most strenuous objections against establishment of the institution in their village, which has long enjoyed a more or less deserved reputation for salubrity. The active promoters of the “Preventorium” have had all manner of legal indignities offered to them by the enraged villagers and the discussion *pro* and *con* has waxed furious. Senseless as must appear antagonism to this institution based on any fear of bringing tuberculosis to Lakewood or of endangering any resident in the slightest, we must not overlook the fact that the question is not entirely one sided. Our esteemed contemporary the *Medical Record* (Dec. 4, 1909), takes a very sententious view of the matter and points out the seeming lack of wisdom in planting such an institution in the thickly settled portion of the town when a better adapted site was available.

Possibly some question of expediency not generally known occasioned this apparent error of judgment. Such being the case there is nothing to say, but the lesson remains that such institutions should never be established in populated districts. Better wait until a suitable place can be obtained than to go ahead and run counter to ill founded but still very forceful opposition.

The motives of the kindly intentioned people who are trying so hard and so intelligently to save the lives of countless little children, are most commendable. But we must not forget that the residents of each community have certain rights. Lakewood has been a favorite resort for wealthy invalids who have appreciated its quiet and—it can be said without snobbery—its exclusiveness. The community has enjoyed and prized this condition. To have a charitable and more or less public institution suddenly planted in their midst, no matter how praiseworthy in its objects, undoubtedly means serious annoyance and damage, since it destroys a condition involved in the valuation of their property. Manifestly to many the charm and home value of their residences are seriously depreciated by the proximity of the institution under discussion, and this being so, they can hardly be blamed for their antagonism. The opposition is naturally augmented by the fact that the disease to be combatted is tuberculosis—a contagious malady. That there is an unreasonable fear of this disease, which acts as a serious handicap in all humanitarian work for the afflicted, as for instance in the present affair, we have ourselves to thank. In our desire to emphasize the contagious or com-

municable character of the disease we went too far, with the result that many a poor tuberculous patient is today forced to suffer almost as much as the leper of biblical times. For simple humanity's sake we must undo what we can of the harm by teaching the people that the consumptive is dangerous only when he violates certain rules of conduct; rules as a matter of fact that should be universally observed and followed, since so many people are tuberculous and do not know it. It is needless to say that these rules refer to promiscuous expectoration, public drinking cups, etc.

Perhaps if we are ever able to quell the ill founded fears of even the most intelligent classes, we shall be able to establish sanatoria anywhere, and instead of being opposed they will be welcomed. But until that time we must expect opposition.

The line of least resistance would seem to be the right one for some time to come, not only to avoid disagreeable and dispiriting obstruction to good and noble work, but what is quite as important, to cause no one annoyance and trouble. Objections to a sanatorium in any community may be groundless, the fears created may be absolutely without reason, and the actual injury and damage done may be purely imaginary, and yet we can understand how a very real and serious harm might follow its establishment. If a man thinks his home is jeopardized, if he thinks it less desirable, if he thinks his family and himself in danger, if he thinks the proximity of a sanatorium an injury, the harm is done, his peace of mind and his happiness are destroyed. To that man the sanatorium has done harm and a very real harm. The more there are in a com-

munity who feel likewise the broader and more widespread the harm. It is no exaggeration to state that a whole community might be wrecked in this way. Can anyone deny that the question has two sides? If in the present case it could be shown that Lakewood was unique in its climate, or had some special atmospheric quality not to be found anywhere else we would agree that the rights of the sick and afflicted transcended those of individuals. But such is not claimed, and there are countless places as good or better from climatic standpoints. In all fairness it would seem that the people of Lakewood are not as unkind or hardhearted as many may think, and if anyone has erred it is the good souled but tactless persons who did not realize that they were robbing a quiet happy people of their peace of mind.

aiding Nature's mechanism evolved for that very purpose. In health or disease there is a constant loss of heat by the evaporation of perspiration, the only practical way, as men cannot plunge into cold water every two hours even in the tropics where the loss by radiation is at a minimum. What we need is something which will draw blood to the surface, dilate the superficial capillaries and stimulate the sweat glands to greater activity—and these are preeminently the effects of hot baths. No wonder it is found that after the bath, the body temperature goes down faster and further than in the Brand treatment, and what is infinitely better, it stays down longer, there is little or no suffering and no shock. The mortality should be reduced too, but there are not sufficient statistics to say how much.

Hot baths in typhoid fever have now been tried long enough to warrant the formation of opinions worth something. The Brand treatment of the extraction of fever heat by cold water was so rational and saved so many lives that we all inclined to the view that it was the only thing to do. Everyone then tried to devise means of preventing the suffering of the bath, and the more or less dangerous shock, so that all kinds of schemes have been tried, down to the cold air bath which is merely the use of an electric fan playing on the patient day and night and which in some hands has produced excellent antipyretic effects even when not accompanied by any other kind of bathing or moistening the skin. It therefore is disconcerting to be informed that the cold water is unnatural and does not produce nearly as good results as by

Tepid baths in hot weather thus come up for renewed discussion. People almost invariably resort to cold baths for the temporary comfort, utterly oblivious of the fact that the nervous reflexes are so arranged as to check heat losses when the skin is chilled and they do this by diminishing the calibre of superficial capillaries, checking sweat production and keeping the blood in the interior to lessen radiation. After a cold bath in hot weather, the discomfort and danger are therefore increased and these facts have been known and published by tropical experts for a generation or two. The advice to use tepid baths has been given time and time again, but is ignored simply because people notice the temporary comfort of cold water, and not the increased discomfort which follows. Lack of forethought is a common human frailty and we are all inclined to sacrifice a future good for a present evanescent one. But in the practice of medicine such lack

is criminal and it is high time that we observe whether cold baths in typhoids, after a temporary reduction of temperature, do not really cause a higher later rise and compel us to give more and more cold applications. That is, the Brand treatment increases its own necessity, while hot baths lessen it. So it is wise to listen to those who are now so enthusiastic over the results of this remarkable reversal of therapy. The old empiric pre-quinine method of "sweating a fever" is not so silly after all. Poor old defunct *empiricism*, how it does survive after being so often killed by "scientific" rationalism. And it lives simply because it is vital.

The free use of drinking water thus becomes much more rational for it supplies the fluid for the needed increased perspiration in fevers and in hot weather. Yet here is where error did fasten itself on empiricism, for in spite of the use of copious hot drinks to "sweat a fever," it was the rule to keep all water from the sick subsequently in spite of the dreadful thirst—Nature's call for material to cure. It is an axiom of hygiene to use plenty of water in hot weather, to prevent sunstrokes and in the treatment of some forms where the perspiration has been so excessive as to have used up the available supply saline enemata or intravenous injections are followed by phenomenal cures. So let this too, be remembered for all people in the hot season and for all fevers in any season.

The mystery of goitre seems as far from explanation as it ever was, if one may judge from the variety of opinions expressed by those who are best equipped to come to any conclusion. Of course the symptoms of hyposecretion and hyper-

secretion are well known, and the minute anatomy of the abnormal glands has been quite well made out, but the ultimate causes are still unknown. The tendency of recent speculations is in the direction of accounting for the process on the supposition that there is an atavism or reversion to prior developmental stages in our evolution, or, perhaps it would be better to say, an arrest of foetal development. To be of value, such explanation requires a knowledge of the earlier uses of the thyroid and we must assume that it once had a function different from its present one. McCarty of Rochester, Minn., has made the pregnant suggestion that it was once a mere invagination or diverticulum of the gastro-intestinal tract and produced a digestive fluid whose use disappeared with the higher efficiency of organs further down. Its duct would then become occluded in time as a matter of course, and the gland would have disappeared by involution were it not for the fact that its secretion had another use not connected with digestion. At present its products are so potent as to cause more or less serious toxemia when in excessive amounts. This suggestion may lead to important modifications of our ideas as to the immediate causes generally accepted in districts where the condition is common. These may not act as excitants but in some way cause an arrest of development and if so then goitre becomes one of the innumerable results of any interference with proper development, and would necessarily be far more common in neurotics and defectives—an evidence of abnormal contogeny. Indeed it is already suggested that all the forms are merely stages of one process, and this generalization is bound to lead to important discoveries in the etiology of maldevelopment.

ORIGINAL ARTICLES.

A RESUME OF THE PROGRESS OF
SURGERY IN BENIGN CONDI-
TIONS OF THE STOMACH
AND DUODENUM.

BY

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Previous to 1875, surgery of the stomach did not exist. Occasional recoveries followed wounds, as in the celebrated case of Alexis St. Martin, but they could hardly be attributed entirely to good management. Gastrotomy and gastrostomy, like Caesarean section, which is as old as the Christian era, were sometimes practiced when there appeared to be no alternative.

The last thirty years have revolutionized surgery. The seemingly impossible has been frequently accomplished. The progress of gastro-enterostomy for benign conditions of the stomach and duodenum has been such that conclusions may safely be drawn from the ultimate results of a large number of cases, many of them dating back to 1896. The danger from operation—along modern lines—has been reduced to a minimum; much valuable knowledge has been gained from direct observation; attention has been given to the selection of suitable cases in order to determine the amount and permanency of the relief afforded.

The first operation for *non-perforating* gastric ulcer was done by Czerny, in 1882. The first *perforating* ulcer which was sutured dates as far back as 1880, only, and the first successful case did not occur until 1892. In 1896, Weir and Foote² collected 78 cases that had occurred in sixteen years. Dr. M. B. Tinker, in 1898, reported, in addition to those tabulated by Weir and Foote,

78 cases, collected in two years. It will be seen, therefore, that surgery of gastric ulcer rapidly gained in favor. Further, it has been demonstrated that the mortality of celiotomy for that purpose has been greatly diminished, partly by reason of the fact that such cases are operated on at an earlier time, when the prospect of recovery is relatively good, and partly from the fact that surgeons are gradually discovering the mistakes of the earlier operators and so improving our technique.

The frequency of gastric ulcer is startling. Ewald,³ in 1898, estimated it at between 4 and 5 per cent of the entire population. Still more surprising was the statement of v. Luebe,⁴ who estimated that in ten years he treated many more than one thousand cases. This would make an average of one case about every third day. It is doubtful if all the surgeons of Chicago have done as many pylorectomies, pyloroplasties or gastro-enterostomies as a single surgeon, Mikulicz, in Breslau, or Czerny, in Heidelberg, have performed. The fact may be due partially to geographical causes or to the personal celebrity of individual surgeons, but it is more likely due to the existence of a peasant class entirely unknown in America. Unwholesome food, unsanitary housing, poor clothing and unstinted use of beer—unfavorable environment—are probably responsible for the frequency of gastric disorders in Europe.

The mortality, as well as the prevalence, of gastric ulcer makes the subject one of great importance. In 1898, it was, according to Ewald, from 1.23 per cent to 13 per cent. De Bove and Redmond⁵ figured the mortality at 50 per cent; Welch⁶ placed it at 15 per cent, of which 6.5 per cent were due to perforation, and from 3 to 5 per cent to hemorrhage. With such varying opin-

ions, it is impossible to make a more exact statement, perhaps, than that a large number of cases die.

The situation of the ulcer can be more accurately estimated. According to Welch, the following is the number and the proportion in 793 cases:

Lesser curvature	288	(36.3 per cent)
Posterior wall	235	(29.6 per cent)
Pylorus	95	(12. per cent)
Anterior wall	69	(8.7 per cent)
Cardia	50	(6.3 per cent)
Fundus	29	(3.7 per cent)
Greater curvature	27	(3.4 per cent)

Of 1,348 cases referred to by Van Valzah and Nisbet,⁷ 923 were situated on the anterior wall, as against 425 in all other parts of the stomach. While the situation of the ulcer is of great importance, the situation of the perforation, which differs greatly in its percentage from that of the position of the ulcer, is, to surgeons, of still greater moment. Greiss and Cohn⁸ estimated that only 2 per cent of those on the posterior wall perforated, but of those on the anterior wall 85 per cent perforated, and of those near the cardia 40 per cent perforated. Brinton, taking as an example, 100 ulcers in each of the following situations, found that 2 perforated on the posterior surface; 10 in the pyloric sac; 13 in the middle of the organ; 18 in the lesser curvature; 28 on the anterior and posterior surfaces at once; 40 at the cardiac extremity and 85 on the anterior surface. The liability of perforation on the anterior surface is greater than that on the posterior because of the respiratory and peristaltic motion of the stomach, and abdominal wall adhesions do not form readily anteriorly, whereas, posteriorly they very often occur.

Not only are perforating ulcers very infrequent on the posterior wall, but when they do perforate there, they are apt to

result in localized subphrenic abscesses, rather than in general peritonitis.

The probable location of the perforation is of great practical interest to the surgeon, for when he has opened the abdomen in search of a perforation he should conduct his investigation not hap-hazard, but methodically, and in accordance with the above indications; that is, begin with the anterior wall, next to the cardia, then examine the lesser curvature to the pylorus, and end with the posterior wall. Observing method in making the search is not to be forgotten from a time-saving standpoint.

It should be remembered that in many instances there is more than one gastric ulcer. Brinton gives the opinion that two or more exist in one-fifth of all the cases, and, as in typhoid ulcers, when one has perforated, there may be others which have perforated or are ready to do so. It is advisable, therefore, to make a careful search for an actual or threatened perforation and remedy or avert the trouble by the correct treatment.

It is hardly necessary to enter into a discussion of the diagnosis. The difficulty, often the impossibility, of absolutely diagnosing the existence of an ulcer and of differentiating ulcer from cancer is admitted by all writers. The dangers at the present day, from exploratory celiotomy is slight, therefore, in view of the vital importance of early and exact diagnosis, it is not only proper that the surgeon should make such investigation, whenever the diagnosis is in doubt, but it is his highest duty to do so. Even after celiotomy, an ulcer with thickened edges has often been mistaken for a cancer.⁹

The diagnosis of *perforation* can usually be made with great certainty. Occasion-

ally, it has been difficult to ascertain whether the case was one of appendicitis or of intestinal perforation, especially of a duodenal ulcer or of strangulated hernia, but, as in either case the surgical treatment is equally clear, namely, immediate celiotomy, the doubt is of less moment than would be supposed. The first and most prominent sign is pain, which is usually spontaneous, intense, and localized in the left upper quadrant of the abdomen. This is so severe as to be attended with collapse, and soon afterward by symptoms of peritonitis. The abdomen, at first rigid and rather sunken, becomes distended by meteorism. Intestinal peristalsis comes to a standstill, and vomiting frequently ceases. One would suppose, as the stomach always contains gas, that this would escape into the general abdominal cavity and invariably cause diminution or disappearance of the hepatic dulness. On the contrary, liver dulness may not disappear. Sometimes, it is not even lessened. In view of the urgency of the case, should there be any doubt, instant exploratory celiotomy should clear it up.

The treatment of gastric ulcer should, in the beginning, be medical. To the cases that do not yield to medical means, three surgical methods of treatment are open: The first two of these are pyloroplasty and gastroenterostomy. The object of both is to put the ulcer as far as possible, at rest. In 1898, Morison did pyloroplasty in two cases in which he scrubbed the ulcer with gauze and then drew the mucous membrane together over it with catgut, as did Mikulicz,¹⁰ in the same year. As the mortality of the two operations is not very different, and as gastroenterostomy, perhaps, best attains the object in view, namely, the speedy emptying of the contents of

the stomach, this is, on the whole, the better plan. Yet pyloroplasty in Mikulicz's hands has given admirable results.

A third method of treatment, which has been rarely resorted to until recent years, is excision of the ulcer. This has been done in a number of instances by pylorectomy, but reference is made more particularly to such cases of resection of the wall of the stomach as are termed partial gastrectomies. This was first done by Czerny,¹¹ who, on December 13, 1882, excised the ulcer, with recovery. In 1888, Cordua¹² had an equally successful case. Billroth¹³ and Hoffmeister,¹⁴ when the stomach tore during an attempt to free it from adhesions, immediately resected the ulcers with recovery. Drobrick¹⁵ reported a similar successful case following a tear in which the resulting gap in the stomach wall was as large as the hand. Schuchardt¹⁶ also had a favorable result, but the patient died two weeks later from perforation of a second ulcer, which he had not found at the operation, though the entire hand was introduced into the stomach.

The first tabulation of all cases operated on was published in 1896, but, since that time, the number of operations has grown beyond tabulation. The tables show that there were but nine men as against sixty-one women. In eight cases the sex was not given. Taking twenty-five years as the dividing line, all of the men were over twenty-five and four of them were over forty years of age. Of the women, forty-one were twenty-five years old or under and only sixteen were over twenty-five, the age not being stated in four. The proportion of perforations in women, therefore, is even greater than the proportion of ulcers. The age and sex lend force to the distinction which Seymour Taylor¹⁷ made,

some time ago, that there are two distinct forms of gastric ulcer, first, the chronic ulcer seen most frequently in men past forty years of age, and second, the acute perforating ulcer seen oftenest in anemic women below twenty-five years of age.

According to the analysis of Weir and Foote and Keen and Tinker, the number of instances in which ulcer occurred in the anterior wall, the posterior wall, the lesser curvature, the cardia, and the pylorus is given as follows:

	Weir & Foote	Keen & Tinker	Total
Posterior wall	11	8	19
Anterior wall	43	52	95
Near lesser curvature	6	31	37
Near cardia	27	27	54
Near pylorus	9	13	22
Total	96	131	227

Practically, the figures correspond almost exactly, except in the case of the greater frequency of perforation near the lesser curvature, in the second table.

In seventy-eight cases in Weir and Foote's table there were sixteen in which the ulcer was not found, whereas, in Keen and Tinker's table of seventy-eight cases there were only nine in which the ulcer was not found, and of these nine, six died and three recovered.

The reason for not finding the ulcer in some cases, as pointed out by Weir and Foote and others, was that the operators did not deem it wise to separate adhesions. This error of technique had not yet been pointed out.

The reduction of mortality will be seen by comparing, first, the tables of Weir and Foote and those of Keen and Tinker; and second, by comparing, in Keen and Tinker's table, the cases operated on before 1896 and those operated on between 1896 and 1898.

Taking one series alone, and the most important, those operated on within twelve hours after the perforation had taken place, in Weir and Foote's table, the percentage of mortality was 39.13 per cent; of those in Keen and Tinker's table operated on before 1896, it was 28.57 per cent; of those operated on between 1896 and 1898, only 16.66 per cent. This rapid fall in the mortality of the cases operated on at the same period shows that technique, and therefore, results were steadily improving.

COMBINED RESULTS, WEIR AND FOOTE, AND KEEN AND TINKER.

Time of Operation.	Total	Died	Recovered	Percentage of Mortality
Under 12 hours	49	14	35	28.57
12 to 24 hours	33	21	12	63.63
24 to 48 hours	27	21	6	77.77
Over 48 hours	33	17	16	51.51
Not stated	14	10	4	
	156	83	73	53.20

Weir and Foote's Table.

Time of Operation	Total	Died	Recovered	Percentage of Mortality
Under 12 hours	23	9	14	39.13
12 to 24 hours	17	13	4	76.47
24 to 48 hours	18	16	2	88.88
Over 48 hours	14	12	2	85.71
Not stated	6	5	1	
	78	55	23	71.51

Keen and Tinker's Entire Table.

Under 12 hours	26	5	21	19.23
12 to 24 hours	16	8	8	50
24 to 48 hours	9	5	4	55.55
Over 48 hours	19	5	14	25.31
Not stated	8	5	3	
	78	28	50	35.89

Keen and Tinker; Operations Before 1896.

Under 12 hours	7	2	5	28.57
12 to 24 hours	2	2		100.
24 to 48 hours	1	1		100.
Over 48 hours	9	2	7	22.22
Not stated	4	2	2	
	23	9	14	39.13

Keen and Tinker; Operations Since 1896.

Under 12 hours	18	3	15	16.66
12 to 24 hours	14	6	8	42.85
24 to 48 hours	8	4	4	50.
Over 48 hours	10	3	7	50.
Not stated	4	3	1	
		54	19	35
				35.18

The tables of Weir and Foote and Keen and Tinker established the importance of early operation. Table No. 1, giving the results of the whole 156 cases, shows that the cases operated on within twelve hours, forty-nine in number, gave a mortality of 28.57 per cent. After that, the mortality more than doubled within twelve hours, being 63.63 per cent in operations done in from twelve to twenty-four hours, and rising still further to 77.77 per cent in those operated on between twenty-four and forty-eight hours. Again, if we take the operations in Keen's table, done from 1896 to 1898, the mortality under twelve hours is 16.66 per cent. It jumps instantly to 42.85 per cent in twelve to twenty-four hours and to 50 per cent in the second day. As in the perforation from typhoid ulcer, the essential or unavoidable mortality is only that of the first twelve hours.

The evident conclusion, then, then as to-day is that *if we wish to have any reasonable prospect of recovery the case must be operated on within the first twelve hours, and practically the earlier the better.* The same rule will apply to perforated gastric ulcer that applies to perforated typhoid ulcer. The table shows that the cases operated on after forty-eight hours were not only all in unfavorable condition, the symptoms varying in severity, from extreme discomfort, emaciation and weakness to an almost moribund condition, but that a large number of them during convalescence suffered from the complications which prolonged the illness and endangered re-

covery; while the cases operated on within the first twelve hours, after the immediate shock of operation passed off, made uncomplicated and smooth recoveries.

Sufficient time has elapsed since the tables of Weir and Foote and Keen and Tinker were prepared to prove the truth of their conclusions, which have been substantiated, in the main, by the more recent testimony of other eminent men.

Having reviewed the early history of our work in this field, let us take an inventory of our later stock.

At a meeting of the American Medical Association, in May, 1908, Dr. W. J. Mayo called attention to the fact that no one is operated on until a reasonable amount of medical treatment has failed; that a case may be considered permanently cured, if, after two years, no unfavorable symptoms reappear. He also alluded to the improvement over the earlier work in the elimination of technical errors and in discrimination. He pointed out that ulceration may be absent, although clinically diagnosed. Dr. Mayo and his brother had, prior to 1908, operated on five hundred and forty cases of ulcer of the stomach and duodenum. Of twenty-seven cases of acute perforation, in five, gastroenterostomy was done, with only two deaths. Out of eighteen that recovered after suture and drainage, but one required a secondary gastroenterostomy. Previous to the year 1900, the anterior anastomosis was performed, with a mortality of six per cent, and many have remained well from eight to fifteen years. Between 1900 and 1905, cases without obstruction began to be operated upon, with results not quite so favorable, on account of technical imperfections. The evidence is in favor of the excision of gastric ulcers occurring to the left of the

pyloric end. At one time, the posterior "no-loop" operation was the chosen method, and three hundred such operations were performed with a mortality less than one per cent. Only one per cent of secondary operations were necessary.

At that period, in many instances surgeons proceeded upon the clinical diagnosis of ulcer rather than the operative, and the operation as well as the diagnosis proved to be a mistake.

Since 1905, if, upon exploration, no ulcer was demonstrated, there has been no operation unless necessary on account of hemorrhage. In 1906, out of three hundred and seventy-nine operations 4.8 per cent died. In sixty-four cases, no ulcer was actually demonstrated at the time of operation, and eleven required secondary operations. In only two of these cases had an ulcer been overlooked. Of two hundred and thirty-four cases of demonstrated ulcers which were traced, over eighty per cent were cured, nine per cent improved and four per cent unimproved, showing a total of about ninety per cent cured or improved.

Dr. John B. Deaver¹⁰ found, out of sixty-six patients operated on for benign disease, that forty-four were entirely free from all gastric symptoms, nine were greatly benefited, five remained unimproved and eight died, giving a total of sixty-six per cent cured and eighty per cent greatly improved. He summarizes as follows:

In ulcer of the stomach 6 per cent were cured and 16 per cent improved. Of twelve cases of duodenal ulcer, there were over 90 per cent of cures; and in stenosis of the pylorus and in gastrectasis there were 65 per cent of cures. Present day surgeons generally recognize these conclusions as correct.

The cases analyzed by Moynihan are not so numerous as those recorded by the Mayo brothers, but they are of value because of their completeness.²⁰ The lessons to be derived from them are:

1. Operation should be confined to those cases in which organic lesion is demonstrated; it should not be performed, as a rule, if no lesion can be found.

2. When there proves to be an acute perforating ulcer, the perforation should be closed or the ulcer excised. If a prepyloric, pyloric or duodenal ulcer is discovered, gastroenterostomy should be performed.

3. Relief by gastroenterostomy may be incomplete if an ulcer be located on the lesser curvature at some distance from the pylorus, in such a position that the passage of food is not obstructed, and excision should be performed.

4. Gastroenterostomy should be performed if the ulcer be prepyloric, pyloric or duodenal. It is best, also, to infold an ulcer when possible, for both hemorrhages and perforations may take place months or years after gastroenterostomy.

5. Moynihan considers the posterior "no-loop" method with the almost vertical application of the bowel to the stomach, the most satisfactory one.

6. Entero-anastomosis should be done if regurgitant vomiting occurs as the result of the "no loop" operation, whether anterior or posterior.

7. Double operations are usually necessary in cases of "hour-glass stomach." In twenty-seven cases of perforating ulcer of the stomach and duodenum, eighteen recovered; in six cases gastroenterostomy was simultaneously performed, and in two cases, subsequently, that is in eight out of

eighteen. From these facts, it would seem that gastroenterostomy is the better procedure when the ulcer is at or near the pylorus, and excision of the ulcer when it is near the lesser curvature and away from the pylorus.

Twenty-seven cases were operated on for acute hemorrhage. There were two deaths. Eighteen were regarded as absolutely cured, one was benefitted, but not well, and three had bilious vomiting afterward.

One hundred and seventy-four cases of gastric and duodenal ulcer were demonstrated. Of eleven cases in which no ulcer was found, only three were cured; one died from uraemia, six were no better, and in three cases improvement was doubtful. Three cases on which pyroloplasty was performed required gastroenterostomy subsequently. In twenty-two cases, vomiting occurred after the operation, and in two cases, haematemesis. In twelve cases the patients were said to be no better, six of them having no demonstrable lesion at the time of operation. In five cases, there was vomiting as a result of indiscretions of diet. In ten cases there was little improvement, the patients having occasional vomiting and being compelled to resort, at times, to medical treatment. They are the cases in which the ulcer was at some distance from the pylorus. In seven cases, death occurred from malignant disease of the stomach at the site of the ulcer, all within four years of the time of the operation. There were twenty-two cases of "hour-glass" stomach, with three deaths, and seventeen known to be alive and well.

The ultimate results are as follows: Two hundred and eleven cases were cured, nine were improved, twelve were no better, nine were doubtful, and six were not reported. Thirty-four died, eighteen as the result of

the operation, seven from carcinoma of the stomach and nine from causes unconnected with the stomach or operation.

One of the successful cases was not operated on for thirty-nine hours after perforation, but the extravasation was slight and the peritonitis localized. In two of the three cases that proved fatal, the patient was in a state of collapse previous to operation, and the third died three months later, after the formation of a sub-phrenic abscess, which had been drained.

Owing to earlier diagnosis, the mortality after operation for perforated gastric ulcer has been materially reduced within the last few years. Up to 1903, Crisp English²⁶ found that only 52 per cent out of forty-nine cases at St. George's Hospital recovered. Sargent²³ gave 58 per cent, forty recoveries in forty-nine cases, at St. Thomas' Hospital, up to 1904.

Although the physician may look for some leading symptoms or hope for some chemical method of arriving at correct diagnosis of chronic ulcer of the stomach, there seem to be no other reliable signs except pain and vomiting, which also occur in other diseases.

The test-meal has proved to be little or no help. Experiment has shown that it offers no certain division of gastric cases into those that will and those that will not benefit by operation. In cases that profit by gastroenterostomy, gastrectasis is not necessarily present.

Even the presence of a tumor means very little in the diagnosis between inflammatory tissue and neoplasm; its absence has no bearing upon the question of a profitable or unprofitable operation.

Haematemesis or melaena are misleading. It is difficult to distinguish haematemesis from haemoptysis, and it may be

caused by malignant disease. Regurgitation of blood through the pylorus sometimes causes duodenal ulcer, which is frequently associated with haematemesis and melaena. The erosion of the liver by an adherent simple ulcer will give rise to constant "coffee-ground" vomiting. If haematemesis is produced by a general oozing of the gastric mucosa, there is very little benefit to be derived from gastroenterostomy.

It is the consensus of opinion that where there is doubt as to diagnosis, exploratory operation is advisable.

In many instances, gastric ulceration precedes cancer of the stomach, as simple ulcers, if neglected, frequently become malignant, therefore, prompt, as well as intelligent action is required.

Statistics show that much has been accomplished in recent years and that most excellent results, in general, follow surgical interference for benign condition of the stomach and duodenum in cases that have not yielded promptly to medical treatment.

We may scan the results of our work in this particular field with a great deal of satisfaction; and with the exercise of caution and discrimination which have marked our work in the past, we will ere long have mastered a perfect technique and a mortality no greater than in appendectomy.

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THE CORRECT SOLUTION OF THE EYE-STRAIN PROBLEM—WHERE TO LOOK FOR IT.

BY

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For many years the specialty of Ophthalmology has been strained and its usefulness in relieving suffering and efficiency impaired by the mutual contradictions of two opposing factions. The fact that able men markedly disagree on a given subject indicates that no one is in possession of the whole truth; or rather indeed that important items of truth are entirely missing from human knowledge. A few suggestions, making no claims to originality or finality but designed to help in bringing the two factions closer together, are submitted herewith for the consideration of the profession.

Broadly speaking, the first or "negative" school of ophthalmologists hold that little has been learned about errors of refraction since the time of Donders, and would fit almost no spectacles except to patients having defective or uncomfortable vision or a very few reflex symptoms in parts close to the eye. They regard the estimation and correction of the vast majority of errors of refraction, to the full extent of human ability, as an art easily learned and

not at all difficult of execution. Broadly speaking, again, the second or "positive" school of ophthalmologists believe that Donders merely broke the surface, and that since his time there has been exposed to view a formidable aggregation of reflex disorders, beginning with and from the eye, and sometimes involving almost any part of the organism, physical or mental, through a wide range of phenomena of almost any degree of severity. This school has naturally come to believe that "refracting" an obscure or obstinate case is a task calling for the highest development of human skill and patience, such as few have attained; and that this reason alone is responsible directly or indirectly for the slow acceptance by profession and laity of the Gospel of Refraction.

In all forms of weighing evidence, positive testimony is of more value than negative, both sources being equally reliable. For instance, when Gould says in substance: "I and my colleagues have cured migraine in numberless instances by the use of spectacles, often, however, only after much effort and many failures"; while Roosa says in substance: "I find that it is seldom that I am able to relieve migraine by the use of spectacles, although the profession consider me a skilled ophthalmologist. Today I rarely use a mydriatic. . . . I depend almost entirely on the ophthalmometer," the probabilities point strongly to the positive testimony as more nearly representing the truth than the negative. Gould *may* be a misguided fanatic; but if so it is unfortunate that his opponents have no better proof to offer than *their own failure* to obtain positive results by their own short-cut methods, e. g., ophthalmometry, which admittedly takes into account the form of only one of the refracting surfaces of the eye.

On the other hand, it is even more unfortunate that the "positive" ophthalmologists have not as yet been able to perfect and simplify the art of refracting to such an extent that the profession as a whole may duplicate Gould's wonderful results, definitely confirm his conclusions, and make widespread use of his methods. Roosa is correct in his objection to Gould's insistence on the necessity for exceptional ability and opportunity in the refraction work of the future; for if none but a gifted and privileged handful may attain unto refraction, who is to care for the great mass of eyesick humanity? As a fact, the principles of optics and of physiology involved in refraction are essentially simple; it is their as yet faulty application to the as yet faultily-understood problem of eyestrain that created the difficulties encountered; and it is the duty of the "positive" ophthalmologists to clear up the obscure parts of the science, and correspondingly to simplify the art of refraction, so that men of average intelligence and ordinary opportunity may be obtained from within the overcrowded medical profession in numbers adequate to do the refraction work that now goes by default to correspondence-school ophthalmometrologicians and no-school jewelers.

The eyestrain problem, I repeat, is essentially simple; as is likewise the remedy. There is needed only the overcoming of a few equally simple practical difficulties, which lie largely in the state of mind of laity and profession. Here is the problem: (1) An organ created (evolved) primarily for the purpose of clear, easy, continuous *distant* vision; having, however, a simple makeshift device (a slender ring of muscle under control of the will) which enables the eye to focus itself temporarily

on near objects by sustained contraction of the muscle. (2) A rapid change in the eye-habits of a large and increasing portion of the race, calling on the slender muscular ring for severe and long-continued accommodative efforts out of all proportion to its size and strength; the stress being further increased and complicated by the almost universal irregularity of the refractive media (astigmatism) and the inequality of the two eyes (anisometropia); this untoward combination of circumstances affecting the eye in much the same way as an analogous combination of abnormality and overwork affects the heart, namely: *first*, by hypertrophy and reflex symptoms; *second*, in many cases by dilatation (myopia) and failure (subnormal accommodation and amblyopia). (3) An additional severe and prolonged stress inflicted by the muscles of convergence; straining the eyeball, the muscles themselves, and the related nervous elements, in the often essentially unnecessary effort to maintain binocular vision during near work. Now enters the Ophthalmologist, and mechanically and superficially (with the ophthalmometer) or physiologically and thoroughly (with mydriatic and test-type) does—what? Endeavors to produce functional *emmetropia*, or as near it as the eye will bear without open and stubborn rebellion. Now *emmetropia*, like a good many other exact and absolute things, looks very attractive on paper; but when more or less imperfectly realized in actual practice it is disappointing*. On the other hand it is an everyday

*Small errors of refraction (as from slight over- or under-correction) often produce more pronounced and distressing reflex symptoms than large ones of the same kind; since the eyes strain themselves in the attempt to compensate for the slight defect while the greater one is passively accepted by the eyes and manifests itself only as more or less reduced vision, of which the patient may not even be conscious.

occurrence that eye-symptoms of long standing permanently vanish when *presbyopia* is once established, and *adequate* correction habitually worn during near work. Is it not a mistake, then, to regard *emmetropia* as the ideal eye-condition for near-workers? Is not "voluntary functional *presbyopia*", partial or complete, to be regarded as a better condition for eyes used day in and day out for near work and showing signs of strain? Is it considered wise, in any field of human endeavor, to use up the *entire* available energy (especially when as in this case it is so easily avoidable) or should not an ample reserve be carefully husbanded? Does it not seem rational to provide the patient (in addition to an *emmetropia-for-distance* correction) with *all that he needs* in the way of relief to his accommodation, with entire disregard for his age in years? Does not the severe and often essentially-uncalled-for strain of convergence in producing binocular vision for near work, especially in myopia, frequently call (to deaf ears) for relief by base-in prisms or by the use of one eye instead of both? Would not this much-needed manifold correction lead at once or soon to tolerance of the glasses and prompt relief of all symptoms, in a much greater number of cases and with much less work and fewer first-failures (the patient often refusing a second attempt) than by the present method of seeking in every case to produce an ideal and often impossible condition (functional *emmetropia*) and trying to make one pair of glasses do the work of several? Would not a separate, adequate correction for each set of conditions under which eye-work is habitually performed largely do away with the need for *exceptional* talent and experience in refraction work, a need which has so greatly hindered the spread of the Gospel of Refraction?

This, it seems to me, outlines the cause and the remedy of The Eyestrain Problem. The eyes of a rapidly-increasing part of the race are protesting against unsuitable and excessive work. The eye specialists, instead of making the eye-stress endurable under conditions of *modern work*, are trying, with their heads in the clouds, to adapt the eyes to the conditions of the work of savages, conditions of modern *play*. The laity, even more "in the air" than the profession, lament the supposed decadence of the race and postpone, until further postponement is impossible, the acceptance of even such optical aid as is today available. For this they can hardly be censured; supported, as they are, by the precept and example of a disgracefully large fraction of the Acknowledged Leaders of the medical profession; discouraged by the results of the bungling work of Our Greatest Ophthalmologists and appalled by their outrageous overcharges. The cause of eyestrain being excessive stress, the remedy is reduction of whatever stresses are excessive in a given case, whether in the direction of spheric or of cylindric accommodation, of anisometropia, of actinism, or of oscillation; one, more than one, or all; the degree of relief required being slight, considerable, or absolute; each case being a law to itself, and too much correction of any kind being as bad as too little.

This being a medical and not a sociological paper, bare mention will be made of the greater and better remedy which will in time largely supersede the one herein advocated—the evolution of an industrial organism, of which the human units may for the most part remain as God made them, instead of having to harness up behind an aggregation of giglamps in order to force up to the utmost limit, reasonable

or unreasonable, their efficiency as producers of wealth for their "superiors."

It will of course be understood that the essential simplicity of the eyestrain problem vanishes for a given case as soon as marked structural changes in the eye appear. What is said here applies to eyes actually or potentially sound and healthy, but *functionally* strained by overwork. The fitting of glasses to such eyes is hardly therapeutics but rather preventive medicine, and possesses all the inspiring features of that great and growing art. Conditions resulting from *continued* eyestrain are no longer to be regarded as eyestrain but as organic disease the result of neglect. With them this article has nothing to do, although the *vis medicatrix naturae* will often do great things when the cause is removed.

On the borderline between functional and organic eye diseases lies myopia, a given case being sometimes practically only an error of refraction, at other times a serious organic disease. In spite of its destructiveness myopia is an essentially conservative process (we are coming to realize that Nature rarely destroys except for some beneficent purpose) and is the best available *natural* means of lessening the terrible strain of excessive accommodative effort in eyes unable to endure it. In untreated cases the companion-strain of convergence is often relieved subsequently by the similarly-beneficent destructive processes of deviation, ptosis, and amblyopia of the weaker eye, resulting in many cases (when astigmatism is not too high) in comfortable and sufficiently clear near-vision (monocular) for years or for the rest of life, even presbyopia having no noticeable effect. A wise ophthalmology would stop the progress of myopia by artificially imitating its effects and thus obviating the necessity for its

destructive anatomical changes; preventing the stretching of the globe that produces the shortsightedness by artificially inducing shortsightedness temporarily when it is needed, i. e., by providing *convex spherical lenses for near work* in combination with whatever correction is needed for distance. In addition, to forestall the structural elimination of the weaker eye, monocular vision for near work should in many cases be induced functionally by the use of a blinder—a device often used instinctively by the myopic without the knowledge or in spite of the orders of the doctor. Convex lenses for myopia and induced monocular vision for eyes threatened with squint seems highly absurd and homeopathic to the orthodox fitter of glasses; *his* treatment is to thrust the eyes violently and suddenly into his imitation of binocular emmetropia (the usual result of his efforts being functional compound hyperopic astigmatism with perniciously active anisometropia and heterophoria, the patient being enjoined to wear his glasses constantly in spite of "slight discomfort at first," and being solemnly assured that this treatment is the only one that will enable his eyes to bear the strains of civilization. Now myopia is almost entirely confined to persons doing excessive near work. While doing near work the myopic eye especially needs the relief of reduced accommodative effort and monocular vision. This relief Nature was doing her best to provide when The Ophthalmologist blundered in and made her begin all over again. Is it any wonder that in Germany, (not to strike too near home), where this treatment is carried out in its most unmixed and typical form, progressive myopia is almost universal among the well-read, beer and other stupefacients are more of a necessity than

food, and suicides (notably child suicides) are increasing in numbers by leaps and bounds?

The writer advances these ideas not as dogmas but as theories, supported by a greater number of known facts than any opposing theory, but urgently needing a thorough test by laboratory and clinical investigation on the large scale, to the end that definite proof or disproof may supersede the present unavailing conflict of individual opinion. Such investigations are urgently needed also with respect to a great number of minor points in this connection. Among these may be mentioned the strain of the excessive actinism resulting from the unprecedented present-day glare of daylight and hyperactinic artificial light on white paper during the greater part of waking hours; the strain of the equally unprecedented and monotonous oscillation continued hour after hour during reading; a satisfactory device to replace the often intolerable and always dangerous bifocals*; the different forms of eyeshade; special exercises to counteract the effect of all this "coddling" of the eye, just as walking for exercise is necessary for those who habitually ride; and general hygienic treatment, including psychotherapy.

CONCLUSIONS.

In many, perhaps most cases, a single correction is not enough for a person whose eyes have rebelled under the strain of excessive and unavoidable near work. The functions of accommodation and convergence are being inordinately over-

*Bifocals are a frequent but apparently almost unsuspected cause of stumbles and slips, falls and fractures, in elderly people, becoming more and more dangerous as with advancing age the lower segments must be made more and more convex and the muscular and nervous weakness and bony brittleness increases.

worked. In any given case the stress should be reduced to such an extent that it will cause no further harm, local or remote, to the organism. Present-day measures are not adequate to this end; and the profession to increase its power for good, should bury its dissensions, call in all available aid, and cooperatively study the problem in all its aspects. A sufficient number of medical men should qualify themselves and take up the work of bringing the eyes of the race to their highest efficiency. The final solution of the Eye-strain problem, non-medical but super-medical, lies in freeing the bodies and minds of the race from bondage to The Men Higher Up.

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WHEN SHALL WE TERMINATE PREGNANCY?¹

BY

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The urgent necessity of interrupting the pregnant state occasionally presents itself to even the most conscientious physicians, placing them not infrequently in any but an enviable position. For the devout Roman Catholic there are no two sides to the matter. The Church holds that the taking of life is not to be justified under any consideration. Aside from theological teaching we can scientifically recognize however, occasional necessity for terminating a pregnancy under certain conditions, and no one, from a purely humanitarian or social side of the question can argue against

the saving of a mother's life, or even the avoidance of serious illness or danger at the sacrifice of an utterly unknown quantity.

Broadly speaking there are two classes of cases to consider. The first class is that based on the mechanical impossibility of a successful termination of labor at term. The second is that class due to existing disease in the mother.

The first class is considered separately because in many cases the induction of abortion is not, strictly speaking, an absolute necessity in the interests of the mother; inasmuch as there is the possibility of her being delivered at term by a symphysiotomy or Caesarian section. Therefore, when mechanical obstruction to the birth of a child at term exists, the question becomes at once debatable and a matter of opinion. The particular details of each case are the conditions that will justify a decision. The environment of the patient as regards the possibility of her immediate removal to a hospital when labor begins will also have its weight. From the standpoint of the physician there is always the question of his own conscience, whether to permit the subject to complete pregnancy and to run the chances of a severe operation, or to terminate its existence at once by a simple and absolutely safe procedure. It seems to me that such a question can be decided by a family council only. The patient should be carefully informed of her chances if she waits until the end of pregnancy and has to undergo an operation of some magnitude. If she and her family decide upon the immediate removal of the fetus the whole problem is thrown back upon the medical attendant as a final one of conscience. As our technique, and with it the mortality rate of Caesarian section,

¹Read before the Norwegian Hospital Alumni Association, Oct. 13, 1909.

improve, we may be more and more constrained from a moral standpoint to wait until the child was viable and then operate.

The second class presenting the necessity for considering abortion is based upon the existence of disease in the mother. This class may be subdivided into two.

First, those cases where disease already exists, the progress of which may or may not be accelerated by pregnancy, such as tuberculosis, valvular disease, aneurism, carcinoma, fibroid, chronic nephritis, recently acquired syphilis, nervous diseases and insanity.

Second, those cases where the diseased condition follows and is directly dependent upon the pregnancy, such as uncontrollable vomiting, eclampsia, insanity, anaemia, etc. Here again opinion must vary with each physician and according to the conditions existing in each individual case. Where the tendency to a disease is fairly sure of transmission, as in tuberculosis, syphilis, even cancer, we might hesitate less in advising abortion than we would in heart disease or nephritis. I have at present under observation a case of pregnancy in a woman with a marked valvular condition, to whom the dangers of allowing her state to continue were fully explained, and who, in her desire for maternity, decided to run the risk. Who can determine in advance, in such a case, that the pregnancy will surely be damaging?

In tuberculosis much must depend on the stage of the disease and its previous rapidity of advance; though a number of observers are convinced that in nearly every case the condition of the mother is materially aggravated. It is now granted that in a majority of cases the child will be born free of tuberculosis. It goes without

saying that it should under no conditions be nursed at the mother's breast.

The mere presence of albuminuria is not a valid indication for artificial abortion. Many such can be successfully piloted to the end.

In aneurism, particularly of the aorta, the risks are doubtless too great to permit the pregnancy to continue.

In advanced carcinoma of any organ the tax on the economy due to pregnancy may cause an increased activity of the disease, so that here, as in cardiac disease, the case should be laid before the patient and her family for ultimate decision. The family and patient may be anxious for an heir, and consider that the disease being inevitably fatal, a few weeks or months are worth the sacrifice. In cervical and uterine carcinoma the consensus of opinion is in favor of early abortion. Cervical involvement may constitute an absolute indication for immediate interference, as the dangers of obstruction and serious hemorrhage are added to those of diminishing the patient's resistance to the inroads of the disease.

Cases are occasionally met with in which pregnancy occurs coincidentally with an ovarian cyst or a fibroid tumor, and their proper management has given rise to endless discussion. There can be no doubt that such cases are attended with dangerous possibilities, as the abdomen cannot well accommodate the gravid uterus as well as a tumor of any size. The danger to such cases at term, provided the pregnancy does not spontaneously end before, seems to be very grave, over one-half proving fatal to the mother. In the case of ovarian cysts the pressure of the enlarging uterus may cause rupture and discharge of the tumor contents, followed by cachexia which may end in death. Occasionally the pedicle be-

comes twisted. Whether to tap such a cyst when pressure becomes too great, which is impracticable if it be multilocular, or to do an early ovariectomy, which will probably cause abortion, or to leave the surgical condition alone, and promptly empty the uterus, must depend on the individual case.

Fibroids may cause early abortion of themselves. If low down in the pelvis they may threaten an insuperable obstruction at term; if large, pressure symptoms may later demand a sacrifice of the fetus. Inasmuch as the fibroid is inclined to partake of the increase in size with the uterine muscle, tumors of this character frequently assume alarming proportions with the advance of the pregnancy. Here again the risks seem too great to disregard, and induced abortion may be well justified in any selected case.

Chronic Nephritis:—Albuminuria and the presence of casts is not an uncommon condition in pregnancy, and the absence of severer symptoms calls rarely for such active interference as we are discussing. During the last month of pregnancy the urine of nearly all women contains casts and leucocytes. The existence of fatty, granular or bloody casts would indicate a more serious degeneration of the kidney structure, and occurring in a case of chronic nephritis in which previously they had not existed, might indicate approaching danger. By no means do all cases of chronic nephritis become worse through pregnancy, but they require careful watching and rigid dietary treatment.

Nervous diseases and insanity existing before the pregnancy, and not directly the result of the gravid condition, need only be carefully watched; and if not influenced detrimentally, may be disregarded.

There are four conditions directly due to the pregnant state which will under certain circumstances make its termination imperative in the interests of the mother. These are vomiting, eclampsia, insanity and chorea.

Vomiting:—Concerning vomiting it may be said that each case will be a law unto itself. Many women vomit considerably through an entire pregnancy and come out safely in the end. The practitioner should be very slow to admit vomiting as a cause for performing abortion, as with care and patience the pregnancy can with few exceptions be continued to term. Individual cases may prove the exception, and then the physician must be guided entirely by the physical condition of his patient. Considerable judgment may be required to determine how long to wait before action, so that operation may not be deferred until too late. It is often marvelous to note how promptly the vomiting ceases when the uterine tension has been relaxed.

Eclampsia:—Concerning eclampsia I believe from personal experience that there can be no difference of opinion when once convulsions have occurred. Regardless of whatever other measures have been instituted, it is my conviction that abortion or premature labor should be at once induced. No one can foresee the end in a given case of eclampsia. To be sure some cases will spontaneously miscarry; but to delay in the hope of so fortunate an occurrence seems to me criminal. Occasionally glowing accounts will appear concerning the success of some method of treatment in the hands of an individual enthusiast. For instance, in 1901 Stroganoff of St. Petersburg, reported 113 consecutive cases with six deaths, and an infant mortality of 11%. His method of treatment is based on his

belief that eclampsia is an acute infectious disease, which runs its course in twenty-four hours, or in rare cases forty-eight hours. During the attack he employs oxygen inhalations. After the first convulsion he injects morphine hydrochlorate, gr. $\frac{1}{4}$. In an hour, if necessary, he repeats the injection, or if muscular twitching and evidences of other impending convulsions are present, this is given before the hour. If three injections of this size are necessary, they are given; but thereafter chloral by mouth or rectum, 20 to 40 grs. every six hours, or in sufficient dosage to keep up slight narcosis. But in any treatment the control of the convulsions does not mean a successful method of handling eclampsia, inasmuch as nearly all observers provide in the end for the proper emptying of the uterus. In short, as soon as the womb can be safely emptied, it should be done. Use veratrum, morphine, chloral or chloroform, but incidentally introduce a catheter.

Chorea:—In chorea and insanity dependent upon the gravid state, inasmuch as the general practitioner is hardly qualified to judge as to prognosis, the opinion of a competent neurologist should invariably be secured. Mental disease is more common after than before delivery, but even during pregnancy the mind may become unbalanced. There is often a moderate tendency to vague fear and sadness, which may disappear with time. Occasionally, the depression amounts to melancholia. The disease usually is delayed until the third or fourth months, and is more common in primiparae between thirty and forty years of age. In the interests of the mother, the child and the community at large, because of the possibility of transmitting a nervous taint, just as soon as it is realized that the condition is assuming

a serious aspect, pregnancy should be terminated.

Pernicious Anemia:—Pernicious anaemia and leukemia have been observed as results of pregnancy, but such cases are rare, and each can be considered on its own merits.

Finally, no one should assume such a responsibility as the performance of abortion on his own judgment alone. The case should be submitted to one or several medical men, if possible first to specialists in the particular conditions existing, then to the obstetrician. The outcome of consultation should be recorded, signed by the consultants, and preserved by whoever is to perform the operation. It might be well also, inasmuch as in our enlightened age malpractice suits are not uncommon, to acquire the written consent, properly witnessed, of both husband and patient. In the event of untoward results such documents might prove invaluable.

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FRONTAL SINUSITIS, ACUTE AND CHRONIC, WITH A PLEA FOR EARLY DIAGNOSIS OF ACUTE CASES.¹

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The frontal sinus is one of a chain of accessory cavities which surround the nasal region. The antrum alone is present at birth, all the others come and develop some years after birth. They serve to keep the symmetry of the face, also give room for the teeth in the second dentition. In the

¹Read before the Harvard Medical Society of N. Y. C., Oct. 23, 1909.

lower animals turbinates are found in the sinuses and are covered with olfactory epithelium. There are two frontal sinuses, the right and the left, separated by a thin partition, which corresponds to the sagittal suture of the skull. They are simply cells which have grown up into the frontal bone from the ethmoidal group of cells. The superciliary ridge is but a poor guide to the size of the sinus. The x-ray plate is

The septum between the frontal sinuses is usually perpendicular, and in the median line the upper part may deviate to either side, but the lower portion is always in the middle line. Incomplete or partial septa may be found in the sinus itself and this must be kept in mind when operating. If this is not done the operation will be a failure, and the sinus will continue to discharge, because all the diseased mucous

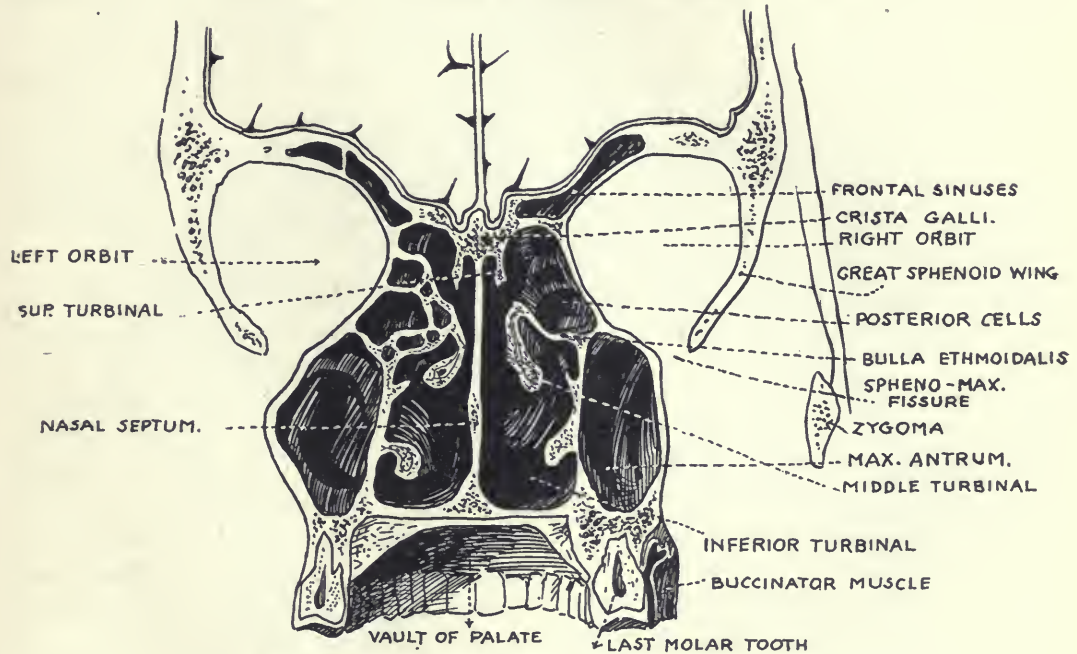


Fig. 1. Cross section nasal passage and sinuses.

a perfect guide as to size providing we can get a good one, and that is not always easy to obtain. I operated on a case in which the x-ray plate seemed to show that the sinus had gone above the ridge. On thorough examination with a probe, I found it extended up to the ridge but no further. This sinus then would hold about 10 minims. On the other hand, I have found them very large and with cells and partitions, and in one case extending all around the orbit. An average frontal may be said to contain about $1\frac{1}{2}$ drams to 2.

membrane has not been removed. Partial partitions are found in about 10% of all cases. Now judging from bodies as we find them in the dissecting room, about one-third of the frontal sinuses are undeveloped that is, the sinus does not extend to the brow but is confined within the upper inner angle of the orbit as the highest ethmoidal cell. If then, the operator is in doubt, the sure point at which to open the sinus is at the upper inner angle and just within the orbit, and next to this, one is most apt to find the sinus at the root of the cor-

responding nasal bone. The posterior wall of the sinus is the front wall of the cranial cavity, and we must be very careful not to perforate it or serious consequences are sure to follow. The floor of the sinus is also very important surgically. Given a normal sinus the floor is in relation from without inward with the roof of the orbit, the roof of the ethmoid labyrinth and the roof of the nasal fossa. The relationship with the roof of the ethmoidal labyrinth is a constant one; if the sinus is small the relationship with the roof of the orbit and the nasal fossa may disappear.

The relationship between the floor of the sinus and the ethmoidal cells is very important, the anterior ethmoidal cells form the floor of the sinus and often mound into it thus obstructing the drainage of the cavity. When found in this condition it is easy to break through the roof and thus make a large opening into the ethmoidal region of the nose. Then having cleared out the ethmoidal cells if necessary, one gets complete drainage of the whole area. The floor is either saucer shaped or funnel shaped. If saucer shaped, and one was sure of the diagnosis, it might be perfectly safe to go up through the nose, thus avoiding an external opening. At best, however, it is a very unsafe procedure, for the funnel shaped one may bring you nearer the dangerous area, which is the posterior internal angle of the floor, since here the cribriform plate comes into close relationship. Strong curetting should be done downward and outward and never backward and inward.

The sinus opens into the middle meatus of the nose by a canal about one-half an inch long. The opening in the floor is about one-eighth to one-quarter of an inch from the median septum. In probing for

the opening from within, the tendency is to hug the septum of the sinus. If the floor is funnel shaped the probe passes at once into the middle meatus, but when the floor is saucer shaped one must probe away from the septum to find the duct. Next if we wish to probe the sinus, via the nose, it is usually impossible to do so unless we remove the anterior tip of the middle turbinate. This helps to drain the cavity as well as making catheterization easier. All intra-nasal work for the purpose of drainage of the frontal sinus is focussed about the anterior end of the middle turbinate. When a probe is passed from the frontal sinus into the middle meatus and continued on, it goes directly into the antrum of Highmore.

When the anterior tip of the middle turbinate is removed it exposes a thin process of bone, the process uncinatus, behind which lies a deep sulcus, called the hiatus semilunaris, and behind this the bulla ethmoidalis. The hiatus semilunaris normally leads up to the canal opening. To pass a probe or cannula, it should be bent so as to press forward, upward, and slightly outward, say an angle of fifty degrees and a bend outwards of about three to five degrees. The end of the probe is passed into the hiatus semilunaris and passes upward and forward. It will soon reach the end of the hiatus semilunaris which is often a blind pouch. It should then be slightly withdrawn and passed upward and outward. This time if the opening to the sinus is normal, the probe will pass into the duct and on into the sinus. It will be felt by the patient over the brow. It may have entered a large ethmoidal cell and not the sinus. So much for the anatomy, we will now consider acute inflammation of this region.

Etiology:—Colds and coryza of influenza are common causes of acute frontal sinusitis. After influenza the bacillus of that disease has been demonstrated in the acute and chronic inflammation of the antrum. If then we could get at the frontal as readily as the antrum no doubt

feel when the eustachian tube is closed from a cold. There might be full persistent pain which is increased on bending forward. Tenderness is also felt at the inner angle of the orbit. Anything more than a transient edema over the orbit indicates that pus is forming. Occasionally

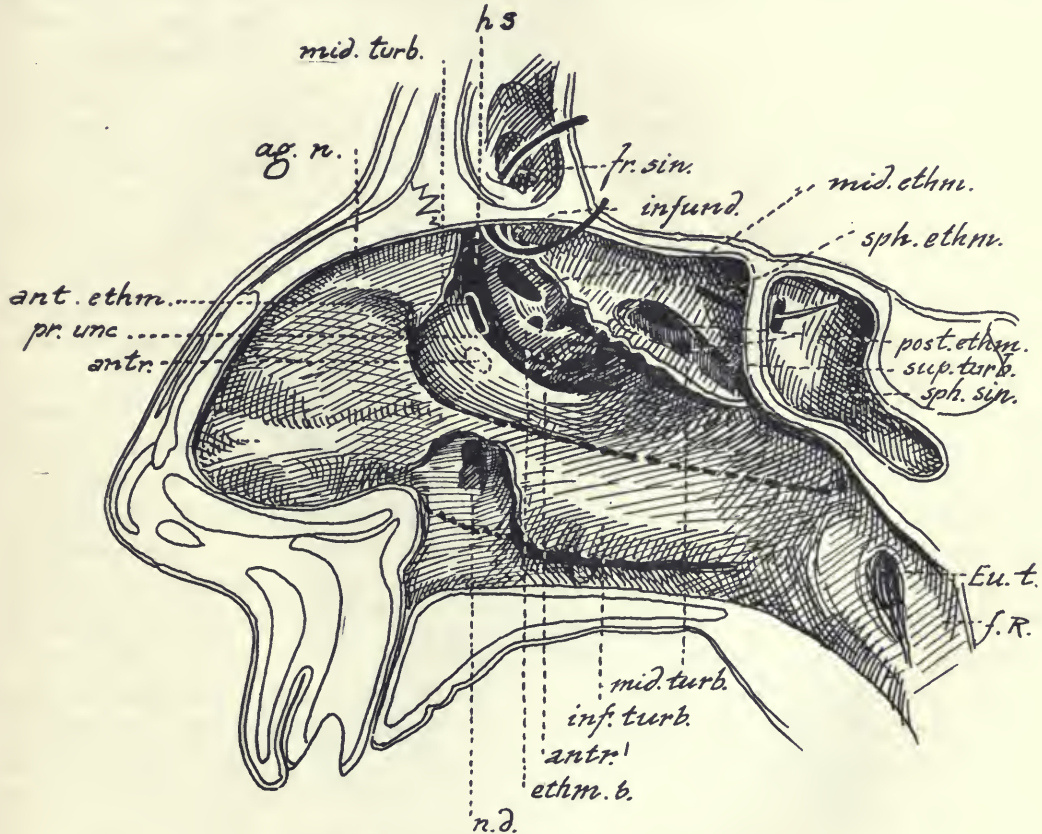


Fig. 2. Medial section showing nasal anatomy.

we could also demonstrate the same bacillus. Acute inflammation of the sinus does not as a rule go on to the formation of pus. The condition in the sinus is probably the same as in the nose, namely, congestion and edema of the lining mucous membrane with exudation of serum, blocking the drainage of the duct. This condition may last a few days or weeks.

Symptoms:—A feeling of weight and uneasiness over the brow such as one might

the upper eyelid droops from involvement of the third nerve.

In making a diagnosis one must rule out orbital neuralgia. Sometimes it is difficult to do so with any degree of certainty. In neuralgia the tenderness follows the course of the nerve in the scalp and the patient complains often of pains in other parts of the body. Neuralgia due to frontal sinus disease starts in the supraorbital branch and may extend to any other or to all the

branches of the trigeminal nerve. This form of neuralgia is usually caused by the sinus and yet it is of a very periodic type. I have seen this in a brother and sister at the same time. In all cases of sinus disease one must be on the lookout for syphilis, occasionally it causes acute and quite often chronic sinusitis. When it is due to syphilis the pain is increased at night.

Treatment:—The first thing to do is to get good drainage. Adrenalin oil sprayed up into the nose every three hours works well, providing the patient has no idiosyncrasy to the drug. It is often wise to pack the nose with a plug of cotton saturated with the oil, for by so doing the oil may work up into the duct and thus exert an astringent effect on the parts around it. Cold or heat applied over the brow will sometimes relieve the pain. When the parts are well shrunk warm air may be blown up through the nostrils and found beneficial. Aspirin or any of the coal tar products, combined with caffeine citrate is a very good drug to give for the pain, but if the paroxysms are severe morphia will be necessary. Unless this line of treatment relieves the condition in a very short time the anterior tip of the middle turbinate should be removed. This almost always relieves the pain. In acute sinusitis after this is done, it is seldom we find pus, but the fact remains that the pains are relieved. Acute sinusitis should be diagnosed early, and proper drainage established at the earliest possible moment; it saves the patient many years of suffering. Syphilis should be ruled out if it is not the cause; if it is the cause, treat accordingly. The general condition of the patient plus the family history, also the past history, should be carefully taken. This will help in case tuberculosis is a contributory cause.

This done, then establish good drainage and keep the patient under observation until thoroughly relieved. By doing this we can generally prevent the condition from becoming the dreaded chronic form.

Chronic Sinusitis.—Here we come to a much darker picture than the one given by acute inflammation of the sinus. The latter may be a trivial affair and last but a few days; chronic inflammation may last a few months, years, or even a lifetime, and constantly disable the patient. It is tedious to treat and thus takes a dignified standing among the diseases. The etiology of chronic sinusitis is not very well understood. We have many operations of varying kinds for the cure of chronic suppuration of the sinus, but we are not so well able to account for its cause. The serum poured out in acute inflammation of the sinus may not be absorbed like serous discharges in the ear, and it may become infected by the ordinary pus producing bacteria. The pus infects the mucous membrane so that in certain places it becomes thicker and in other places polypoid. If the duct is not sufficiently open, the pus seeks an outlet either through the brow or by way of the orbit. Cultures made from the pus are either sterile or full of unrecognizable detritus. Pneumococcus bacillus has been demonstrated. It would seem that tuberculosis frequently plays a part in the cause, also syphilis. It is rare for the bone itself to become affected. The periosteum is seldom diseased and probably this accounts for the fact that the bone does not become more often necrosed. A sequestrum is rarely met with except when the sinusitis is caused by traumata. The mucous membrane may be thickened and diseased with polypoid formations and yet the periosteum may be found in a healthy

condition. This would seem to rule out periostitis as a cause except in cases of syphilis and to confine the seat of the disease to the mucous membrane and make the probable cause some infection of the mucous membrane.

may be persistent; some will have nausea and vomiting, and if women, they may be in doubt as to whether they are pregnant or not. Severe dizziness is also present just as we find sometimes in ear troubles. The patient may have trouble with the vision



Fig. 3. Medial section showing sinuses.

Symptoms:—The chief symptom is brow pain over the affected sinus. The pain may be neuralgic, but it is generally of a dull throbbing character. It may be intermittent at first but later becomes practically constant. In the nose pus is seen in the middle meatus coming from the direction of the hiatus semilunaris. If this is not observed on inspection of the nose, it comes when we pass a catheter. Often with this pain there are gastric symptoms. This

of the eye of the affected side, and consult an oculist.

There are two classes of cases: (1) those who consult the eye clinics because of the eye symptoms, and (2) those who consult the nose and throat clinics because of the pain and discharge from the nose.

In the eye group there are exophthalmos or ethmoid tumor. This is due to pus entering the orbit by way of the floor of the sinus or by the ethmoidal cells breaking

down and pus entering the orbit through the lachrymal bone.

Ethmoid tumor is seen as a rounded swelling just above the inner canthus of the eye. In the eye group, pain is not a prominent symptom, and in many cases pus is not seen in the nose. If a probe is passed, pus will follow the course of the probe when removed. In the nose and throat group there is no ethmoid or exophthalmos tumor, instead pus and polypi are usually found in the nose, and there may be marked pain.

Diagnosis:—In the eye group where the X-ray plate does not locate the pus, exploratory incision is the only thing to do to rule out the various new growths of the orbit or affections of the tear sac. Pus in the middle meatus, may indicate inflammation of the antrum, ethmoidal cells or the sinus. Now where there is brow pain, pus in the nose with tenderness under the upper inner angle of the orbit and edema of the upper lid or brow and with this gastric disturbance, and perhaps dizziness, the diagnosis is certain. It may be proved by the X-ray plate, or pus withdrawn with a catheter. Antrum inflammation may give pain over the brow while sinusitis may give pain in the occipital region, but this symptom may also be due to inflammation in the sphenoidal sinus.

Treatment:—A small number of cases may be cured by passing a catheter, and irrigating the sinus with a weak astringent or antiseptic solution. This is readily understood when you recall the fact that the mucous membrane is thickened and polypoid. This method is also very tedious and one cannot give a patient any assurance that it will relieve him.

It is a dangerous proceeding to attempt to enlarge the duct through the nose and

insert a tube in it, as one is working in the dark; also the edema that follows operating in that area is very great and blocks the discharges. The patient may feel worse after the operation, in fact, it may cause meningitis. No wash can irrigate the sinus thoroughly if it is half full of polypi and divided into recesses by septa. An operation to have any chance of success must thoroughly eradicate the diseased mucous membrane, and the polypi, also the septa, must be removed; therefore, the opening in the sinus must be made large enough to accomplish this. This means that in a small sinus the whole front wall must be removed, and if a large one, most of the anterior wall removed and the septa as well. When this fundamental step has been taken, there are several methods open to the operator; he may curette the upper portion of the duct, then pack the sinus with gauze through the brow incision, and continue the dressing until the sinus granulates up and is obliterated. Second, one can enlarge the opening into the nose, giving it good drainage; third, having removed the whole of the front wall, the mucous membrane, polypi and septa, the operator can extend his incision along the side of the nose and resect the ascending process of the superior maxilla, thus exposing the ethmoid labyrinth from the front. Then by working from the ethmoid region upward and from the sinus floor downward, a great part of the floor can be safely removed and a larger opening made between these regions. This also gives a direct line for removing all the ethmoidal cell anterior and posterior providing they are diseased. It also gives the most direct route to the sphenoidal sinus, for it may be necessary to remove the whole area to insure a successful result.

No one operation is suitable for all cases, and it requires judgment to suit the operation to the case. The ideal operation is to open the sinus through an incision following the eyebrow. This hides the scar later and some months after is hardly noticeable. Open up over the forehead, enlarge it sufficiently to remove all the mucous membrane, the polypi, then pack and dress to obliterate the whole sinus. In dressing it one must be careful not to leave any pockets, or the pain will come back and the operation will have to be done over again. This method is very tedious and takes a long time, but if it succeeds the sinus is obliterated.

The method which I follow and find most satisfactory is the radical or so-called Killian operation. It requires one skin incision and two bone openings. The skin incision is made right through the middle of the eyebrow, and down over the side of the nose. The periosteum is pushed well up over the forehead, and all of the anterior wall of the sinus is removed, then having finished all of the inside of the sinus by thorough curetting, the next bone opening is made at the outer border of the nasal bone. Through this the ascending process of the superior maxilla is resected. Through these two bone openings the angle of the floor of the frontal sinus can be thoroughly and safely removed. Here one can see every step of the operation as there is more room to work in the field. It gives the operator a chance to remove the cells of the ethmoid bone and also the sphenoidal sinus. To do this operation well requires much time, but healing is quick and it offers a great contrast to the granulation method, which often leaves a deep scar. Little or no deformity follows the modified Killian operation. It requires more skill and one must preserve the bridge at the root of the nasal

bone and also the supra-orbital arch. A gauze drainage may be left in the nose if one desires, I seldom ever use any. The wound is closed with interrupted horse hair sutures covered with sterilized vaseline and the patient is put to bed. Healing as a rule is uneventful and the discharge from the nose stops.

178 W. 88th St., N. Y.

CERVICO-BRACHIAL HERPES ZOSTER.

BY

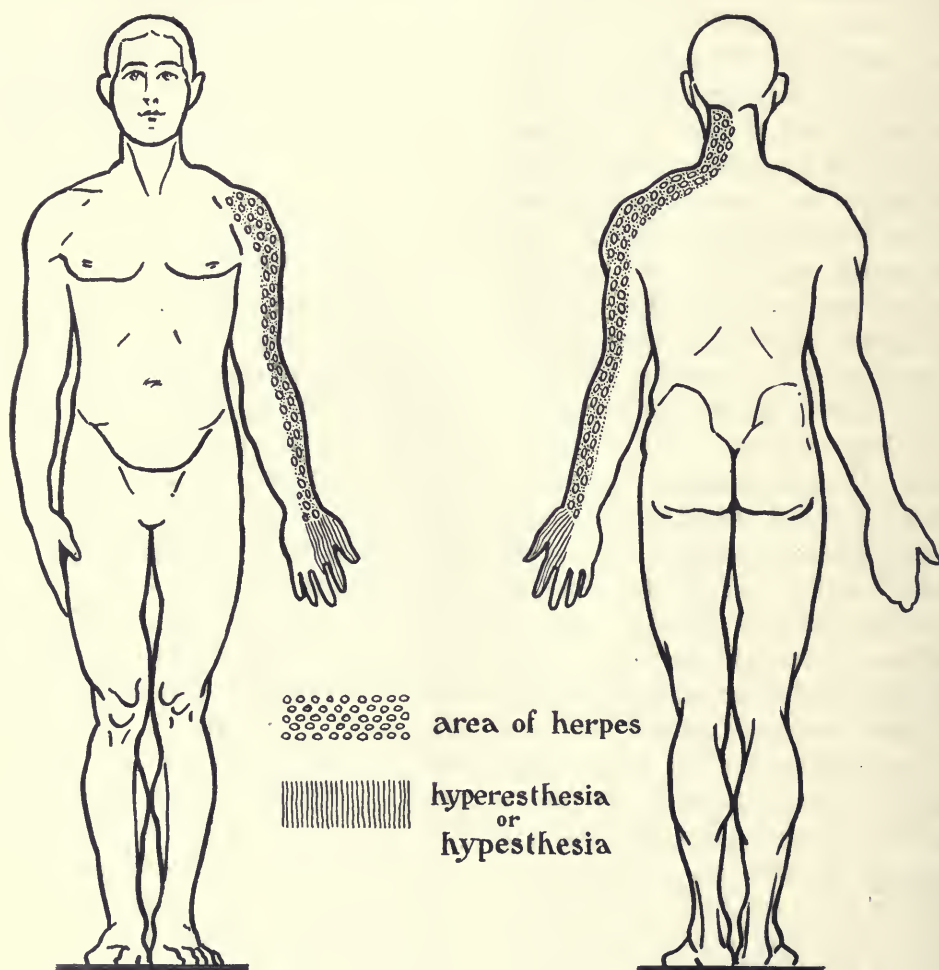
ALFRED GORDON, M. D.,
Philadelphia, Pa.

Trophic, vasomotor and sensory disturbances over an area corresponding precisely to a nerve distribution coming from certain segments of the spinal cord are emphasized in the following case. A debilitated woman, aged 68, after a malaise with a slight elevation of temperature and some gastro-intestinal disturbance lasting a few days, began to suffer severe pain above the left scapula extending from the spinal column to the shoulder joint. The pain at first was paroxysmal, of an unusual intensity and strictly confined to the mentioned area. Gradually, however, it extended to the entire upper limb on the same side and only on its external aspect and became continuous, so that soon the condition was one of an incessant aching and burning; at times the pain was very severe. Two or three days after the onset of the pain an eruption appeared above the left scapula at a space of four finger breadth which rapidly spread over the external surface of the left upper limb down to the wrist.

When I first saw the patient, 2 weeks after the onset, the following was her condition. The above outlined area (see il-

illustration) from the spine down to the fingers is covered by bluish-red plaques of the size of a quarter regularly distributed, in groups of two, more on the anterior than on the posterior border of the radial surface of the limb. On the back the plaques were confined strictly to the cervical region

Pressure upon the affected area provoked severe pain. Test for touch, pain and temperature revealed a hyperesthesia over the involved area including the thenar also the dorsal and palmar surfaces of the first two metacarpal bones and fingers; the increased sensibility was in distinct contrast



immediately above the left scapula. On some of the plaques traces of desiccated pustules were seen and I learned that two days after the reddish spots developed, a number of vesicles made their appearance on these spots but only over the back and the shoulder joint.

with the ulnar side of the arm and hand and on the back with supra- and infra-spinatus regions which were hyperesthetic. The musculature of the hand appeared somewhat wasted in the first interosseous space, also in the thenar group of muscles. The grip of the left hand was weak. The pa-

tient complained of continuous aching which was strictly limited to the affected area. At times the pain would become excruciating.

Under the influence of local applications of ichthyol and internal administration of arsenic and acetylsalicylic acid combined with total rest of the arm and hot local baths—the patient's condition gradually improved.

At present date, four weeks after the onset, the patient complains of continuous sensations of pinching, breaking, burning and pressing. There is no motor involvement of the arm. The above mentioned atrophy is at a standstill. Pressure upon the suprascapular region provokes pain, but the former objective hyperesthesia of the affected region changed to a hypoaesthesia, so that the entire radial side of the arm, forearm, wrist, and hand on the posterior and anterior surfaces shows a diminution of sensation to touch, pain and temperature when compared with the ulnar side.

Of the former bluish-red plaques there is left a brownish pigmentation only on the upper portion of the arm and back, but the spots have totally disappeared on the remainder of the limb.

The patient is emaciated, has lost her appetite, suffers from insomnia because of the pain, and the latter is apparently particularly troublesome at night. The unusual severity and the persistence of pain long after the disappearance of the herpetic eruption in spite of energetic remedial measures renders the case quite interesting.

Herpes zoster or zona is an affection characterized by erythematous plaques surmounted by vesicles and localized along the course of sensory nerves and preceded or followed by neuralgic pains. The most

frequent variety is intercostal. My case is a cervico-brachial form, which belongs to the rarer occurrences. The distribution of the sensory vasomotor and trophic disturbances is confined here to the area supplied by the 4th, 5th and 6th cervical segments of the cord. The simultaneous involvement of several segments of the cord speaks in favor of spinal origin of zona. It is in accordance with Head's view, as in the majority of cases the herpetic eruption does not correspond exactly to the course of a peripheral nerve, but rather to a group of nerve fibres originating in several segments of the cord. Brissaud's division of the spinal cord into metameric segments corroborates Head's conception of zona. The researches of Head and Campbell (*Brain* 1909), of Hedinger (*Deutsche Zeitschrift für Nervenheilkunde* 1903), of Dejerine and André-Thomas (*Revue Neurologique* 1907), of Laminère (*ibidem*) and of other observers show that the lesion of herpes zoster is found in the spinal ganglia and posterior roots. As to the latter degenerated fibres are found in both portions, the peripheral and central. This fact is of a pathogenetic value, as the peripheral portion of the posterior roots contains sympathetic fibers which according to Head and Campbell are the chief cause of the herpetic eruption. In the two cases of André-Thomas and Laminère the communicating branches of the sympathetic were degenerated. This lesion corresponded to the cellular changes of the lateral column of cells in the gray matter which is in anatomical relation with the sympathetic. In Hedinger's case (*loco cit.*) there was a congestion of the cord in the segment corresponding to the zona and a leucocytic infiltration of the blood vessels. The cells of both the spinal ganglia and of the posterior-cornua,

are altered more of the former than of the latter—and in a state of chromatolysis. There is a great accumulation of lymphocytes, between which a marked multiplication of connective tissue fibres is visible. The capsule of the ganglion is considerably thickened. The anterior roots are rarely involved. Head and Campbell (*loc cit.*) have not observed it in their 20 cases.

In André-Thomas and Laminière's cases not only the anterior roots but also the ganglionic cells of the anterior cornua were in a state of degeneration.

It is therefore evident that the anatomical basis of herpes zoster is essentially a radiculo-ganglionic alteration, but the cord itself not infrequently participates in the pathological process. As to the etiology of the disease, Landouzy's view expressed first in 1883, has been generally accepted. It is considered as an acute infectious disease, a sort of an eruptive fever. The records show that the onset is almost always sudden or rapid, accompanied or preceded by a symptom group suggestive of an infection. The analogy with acute anterior poliomyelitis in anatomical and etiological respects is striking. Anatomically we have here an acute posterior poliomyelitis (spinal ganglion) and etiologically it also behaves like an infectious disease as far at least as its onset is concerned. In my case a general malaise with slight fever and gastro-intestinal disorder immediately preceded the appearance of pain and the herpetic eruption. The intensity of the pain and its persistence long after the eruption had disappeared finds perhaps its explanation in the advanced age of the patient. In fact in the majority of cases reported in the literature at my disposal I found an unusually long duration of pain in aged individuals and an unusually brief painful period in children.

DIET IN TUBERCULOSIS.¹

BY

JOHN ASHBURTON CUTTER, M. D., B. Sc.,
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The coining of the word bacteriology has limited for three decades original investigations and caused the neglect of previous micrological knowledge. Bacteria years ago were considered babies of cryptogamic vegetations, capable of reproduction in the baby stage, yet passing on to the spore sporangia and mycelial stages, with bacteria branching off from the succeeding stages of its baby life. Microphotographs taken with the 1-50th and 1-75th inch objectives (Tolles) of the alcohol plant, show the enormous alcoholic protoplasmic cells with bacteria and vinegar yeast spores adjoining; a series of microphotos of the alcohol plant attacking barley cells, demonstrates the fermentation of the carbohydrates and the formation of vinegar yeast spores and bacteria. It is regrettable that I cannot enlarge on this phase of my dietetic subject. French and English literature of the first half of the nineteenth century refer to the influence of sour fermenting foods on tuberculosis. In this country, in one test forty years ago, twenty-five per cent of over one thousand hogs were killed in eight weeks by and from various forms of tuberculosis caused by feeding sour foods in excess; in an adjoining pen, hogs fed normally did not die. This test on hogs I have seen corroborated to a lesser extent in the number of hogs ailing and dying, but with the same pathological findings as to lungs, heart and intestines. An infant asylum, not far from New York had such a dreadful mortality, that the entire medical staff was changed; the diet of these poisoned and

¹Presented to The Medical Society of the Borough of the Bronx, October 13, 1909.

dying babes had been largely a commercial fermenting milk product; two young pigs were placed under absolute control, fed exclusively on this sour fermenting milk preparation and died. The products of fermentation in excess in the intestines are water, carbonic acid gas, alcohol and succinic acid; autointoxication is now a fashionable disease, the name causing consternation in the family of the ill and increased respect for the attending physician; its acute stages in the young and old, we will not consider. Chronic diarrhea, the old time consumption of the bowels, may be purely a disease of wrong feeding and may last for years; the feces show more or less colloid protoplasmic discharges from the partly paralyzed intestinal walls and the vinegar yeast fermentation may be developed to the mother of vinegar stage; this intestinal disease has killed many, still makes an enormous pension obligation of the government for the soldiers fed to excess in the civil war on army biscuit, yet may be borne for years and save the case from tuberculosis pulmonalis; or there may be lesions of the lungs which are cured with scar tissue and the diarrhea still go on. If however, the intestinal villi lose their normal selective power, the blood is invaded by the spores of vinegar yeast, the fibrin filaments of said blood increase in number and size, the red corpuscles lose their hemoglobin, become more or less huddled together in ridges and masses, the white corpuscles distend and enlarge with the spores of the vinegar yeast and in time the spores aggregate in emboli; all this evidence is clearly seen by simple methods of blood inspection in cases suffering from malaise, slight cough, loss of weight and little or no sputum and consequently no tubercle bacilli to make the or-

dinary conventional diagnosis on; treatment based on these morphologies is to the speedy good of the patient; I have in my office an essay written in 1877, on a New Physical Sign of the Pretubercular State, whose illustrations demonstrate that leucocytosis was comprehended by Americans ere the Metchnikoff publications. If a case has progressed beyond the pretubercular state, changes in the lungs obtain from the vinegar yeast emboli, said vinegar yeast emboli having become modified by contact with animal secretions in the intestinal tract, the sputum will present a sticky gelatinous condition, elastic and inelastic lung fibers, granular and massive gravels, mucous corpuscles distended by granular gravel, *tubercle bacilli* and at times the vinegar yeast is advanced to the filamentous aerial stage, as we find mould on jelly open to the air. These things being so, basic treatment is the stopping of fermentative intestinal conditions, which is not so simple in advanced cases of pulmonary disease or in old cases of chronic diarrhea; the best of all foods is broiled beef of animals killed at the age of four years and not overdriven ere death (butchers well know what such beef is); it is necessary also to avoid the fattily degenerated beef of which much is sold; if the patient is not doing well, get busy with a microscope and examine beef for interstitial and parenchymatous fatty degeneration; in very serious cases the red muscular fiber must be separated from the connective tissues which easily ferment; no meat should be eaten raw, moreover in its preparation, the hands should not touch it but the red muscular fiber must be moulded into a cake an inch and a half in depth and four inches in diameter and broiled over a good bed of live coals or with gas, turning often;

the resultant should be of a dark brown color on the outside and red but not raw on the inside—it will cook further if served on a hot water plate; season to taste with pepper, salt, butter, Worcestershire sauce; if good beef and rightly prepared, the resultant is appetizing and patients will eat two to three pounds a day without the dreadful uric acid and indican nightmares which have been troubling many in the profession.

The whites of eggs dropped in boiling water and moderately poached may be taken almost *ad libitum*—desperate cases will ingest and digest eighteen of such a day; the yolks are forbidden as causative of biliousness and cystin in the blood. Celery is a relish food and generally well borne; lime juice or lemon juice quite often agree well, helping liver engorgements. Milk is best when taken warm from the cow; the improvement in our milk service due to Dr. Darlington, makes some of the cold milk brought to New York fairly safe—but the tendency is to biliousness and the adding of lactic acid ferment to the acetic acid ferment in the intestines; despite the assertions of the present, I am afraid of such ferment trust or combination; at any rate if you have normal blood morphology and urine free from bile or excessive deposit, and cold milk does not upset such conditions, then use it.

Hot water, that is, water raised to the boiling point and sipped slowly at a comfortably hot temperature, half an hour to an hour before each meal and on going to bed at night, washes out the stomach, brings up the gases of fermentation (sometimes saving life when the heart is distressed by said gases), cleanses the intestines, promotes better liver action, makes more fluid the ropy sticky blood by dis-

solving emboli of yeast and fibrin filaments and liquifies the ropy sticky gelatinous sputum (occasionally in hemoptysis, hot water must be used with care; it is, however, a fact that despite the dangers of such lung hemorrhages sometimes they relieve engorged conditions and promote the welfare of the patient).

One of the most amazing things in therapeutics to me is the fact of patients calling to my attention after six months of treatment, that the left chest wall which from the enlarged condition of the heart had been distinctly bulging had gone down to normal size, and physical exploration finds a heart with normal sounds over a normal area; food and medicines had restored the blood to normal specific gravity and the enlarged heart of itself cured itself because of lessened work.

The bringing in of other foods as toasted bread, boiled or steamed rice, baked potato, thoroughly cooked cracked wheat, prunes stewed without adding sugar, hominy, spinach, native peaches, string beans and green peas in season, fish as cod or sea-bass, soft shell clams, depends upon the morphology of the blood, feces and sputum and the morphology and chemistry of the urine; this method of watching a patient's course is simple and effective and errors in eating or excesses in work or pleasure or worry will be promptly evidenced by said morphologies and chemistry, even if the patient feels well.

Cutting off fermenting food supplies stops the production of alcohol. People who never indulge in alcoholic or malted liquors on treatment as above will experience the loss of the false stimulus of said intestinal alcoholic fermentation; they must be carried over this "all gone stage" by strychnia, some dependable coca preparation and more

hot water. Medicines play a tremendous role if rightly employed as anti-fermentatives, digestives, tonics and solvents for the abnormal blood and sputum. Aerial food is too thoroughly preached today to need any advocacy here; care must be taken to prevent too much absorption of the actinic ray of the sun; it would appear as if the tuberculous did better in cloudy days than in the bright glare of the sun. It is a matter of regret that I am not wholly orthodox in the views which I am presenting as a witness; furthermore the bases of my statements I cannot go into, though I am ready on due notice so to do. The splendid work of boards of health has promoted the general welfare of the people; but so long as there is inadequate treatment of syphilis and so long as the abnormal eating of carbohydrates and complex meals of many vegetable foods remains a habit, tubercle will ravage. Anyone who has watched New England families in which he knows the history of an antecedent syphilis, following a diet of baked beans, pie, two or three times a day, very little meat and that fried, cakes and doughnuts, with the aerial food of God Almighty shut out from homes for fear the carpets will fade, does not wonder that tuberculosis rages among such. I should like to differentiate the food causal relations of rheumatism, diabetes, fibroid degeneration, Bright's disease, neurasthenia and fatty heart with tuberculosis but lack of space forbids.

251 West Eighty-first St.

In preparing a patient for an operation for anal fistula it is best to abstain from the use of purgatives for twenty-four hours before its performance, an enema being given in the morning.

INFECTION AND IMMUNITY—A SUGGESTION.

BY

W. C. ABBOTT, M. D.,

Chicago, Ill.

The influence of bad hygiene is now so well known that no modern physician would think of leaving a manure heap in the immediate vicinity of a dwelling where any infectious disease was present. If the community is threatened with an invasion of Asiatic cholera, yellow fever, typhus, or any other of the great maladies which occur epidemically, this would be the first thing the physician would attend to, in endeavoring to avert the threatened epidemic. In cleaning away all possible filth, the decaying organic matter that offers a suitable nidus for the development of the germs of such epidemic maladies, we justly look upon human excrement as offering the greatest dangers. Whatever other "cleaning up" is done, this is never neglected.

When fecal matter is retained beyond the normal time in the large intestines, the generation of toxins in the fecal mass goes on unchecked by any of the hindrances which nature places over it in the smaller bowel. These toxins are absorbed into the blood and it becomes permeated therewith. What better reason could be imagined for that individual being the subject of an infectious attack? The vital powers of the entire body are depressed by these toxins circulating in the blood, and acting with special force on the weakest, least protected parts of the economy.

We know that many persons who are exposed to an epidemic disease never contract it, but the reasons for the escape of some and the infection of others are not so well

understood. We can readily imagine that just as manure heaps form the most appropriate nidus for the reception and development of disease germs of every description, so circulating fluid contaminated with the toxins of decomposing fecal matter may well be deemed the most appropriate field for the propagation of such microorganisms as have penetrated to the circulation. It is now known that not only the typhoid bacillus but the tubercle bacillus reaches the blood and may be detected there before either of them can be found in the locations most usually affected, namely, the alimentary canal and the lungs.

Another disquieting thought is suggested by the recent announcement that tuberculosis is frequently contracted through the alimentary canal, the bacilli taken into the stomach with the food first effecting a lodgment there and thence migrating to the pulmonary tissues. If this is true where in the gastrointestinal tract do the invaders first establish their colony, when they multiply and perhaps become imbued with increased malignancy? Not in the stomach or the small intestines, for there the defenses of the body are numerous and potent. But the large bowel is simply a receptacle, devoid of acid secretion and of incursive phagocytes. In the solid masses of feces that lie here—it may be for weeks or months—there is every necessary element forming a favorable nidus for the development of pathogenic microorganisms—heat, moisture, abundance of putrescible nitrogenous material, and nothing to interfere.

There is a world of significance in this observation. It seems probable that the most important rule in the prophylaxis, not only of acute infectious maladies but of

the vast majority of the chronic affections to which the body is liable, is that of keeping the alimentary canal clear and aseptic.

CORRESPONDENCE.

THE BATH AS AN ADJUNCT IN THE TREATMENT OF DISEASE.

BY

A. ROSE, M. D.,
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Editor AMERICAN MEDICINE:—

The article of Dr. W. H. Peters of Providence, R. I., under the above heading which appeared in the November issue of your excellent journal is a very valuable contribution to the literature on the subject and I have read it with great interest, but in one thing I am disappointed. Dr. Peters says nothing about the therapeutic effect of the continuous warm bath. Permit me to call your readers' attention to the fact that there exists a tendency among writers on hydrotherapy to pass in silence this very important form of bathing.

The significance of the method of treatment by the continuous warm bath has been appreciated especially in Germany and the extent of its importance cannot be overestimated. It is hard to think that Dr. E. C. Dent of the Manhattan State Hospital on Ward's Island who introduced this method in the treatment of the insane in this country, and who perfected it in a way which excites our admiration and will be admired by future generations could not have lived to have reaped the benefit and pleasure from his years of labor with this therapeutic measure.

Paulus of Aegina, who lived in the seventh century under Heraclius, the Byzantine emperor, had his patients operated on for hernia, especially children, submerged in warm water for seven consecutive days after the operation in order to prevent inflammatory symptoms. Its introduction as a therapeutic method, however, is ascribed by some to two German

surgeons, Fritz and von Walther, by others to Baudeloque, the great French obstetrician, who lived during Napoleon's time. He made use of the continuous bath in cases of peritonitis. We know of Napoleon that on St. Helena he remained in warm water for whole days to find relief from pain caused by his cancerous disease. The water had to be carried to Longwood from a distant fountain. In his statement Napoleon wrote: "if my captivity is extended to my remains I wish to be buried at the foot of the fountain to which I owe so much relief." Stromayer placed his patients operated on for vesicovaginal fistula in the continuous bath. Langenbeck during the third decade of the 19th century introduced it as a method in surgery.

Passavant, a physician of Frankfort-on-the-Main, and not Hebra, was the first who made use of it in extensive burns. He published in an admirable paper thirteen cases thus treated in the year 1857, while Hebra commenced this treatment only in the year 1860.

The continuous warm bath was used by me in cerebro-spinal meningitis while I was physician of St. Francis Hospital of this city in the year 1872. Strange to say, in recent literature its introduction into therapeutics of cerebro-spinal meningitis is ascribed to Aufrecht and the year of its first employment is said to have been 1894.

The warm bath, while it surrounds the surface of the body with an equally temperate medium, does away with the fluctuations of the loss of heat, and thus acts soothingly. The thermic irritation of the peripheric nerve ends, lessens the sensation of pain, and excites at the same time by way of reflex action, especially in the muscle, an increased metabolism.

The fatigue or exhaustion of muscles is caused by more than normal accumulation of the products of their function. To oxidize and eliminate these products a certain amount of metabolism is required. The specific effect of the warm bath is to afford immediate facility for oxidation.

The changes of the physical and chemical condition of tissues, the augmentation of the organic function, the acceleration of the blood circulation, the dilatation of the

blood vessels, all this depends on specific action of the continuous warm bath on innervation. The effect produced by the thermal irritation of the extremities of the nerves is manifested primarily at the point of contact and along the centripetal tracts originating from the point of contact, and secondarily, in the central organ itself, as also conveyed from there by the centrifugal motor tracts. In general the products of inflammation and infection are taken up by the circulation and eliminated more extensively and quicker under the influence of the warm bath. At least this is the case in local affections as for instance in erysipelas of the extremities and applies also to cerebro-spinal meningitis.

My experience with the continuous bath in this latter disease I have described in my book "Carbonic Acid in Medicine," in which there is a whole chapter devoted to the continuous bath, and to which chapter I beg to refer. I hope that the excellent results obtained by the administration of the continuous bath in cerebro-spinal meningitis will induce some clinician to try the method in order to compare it with the serum treatment.

The theory which has been prevailing that functional work is taken off from the internal organs when there is abundant flow of blood to the skin is erroneous. It has been proved that hyperaemia produced by heated skin spreads to the lower strata and from this it follows that dilatation of the skin vessels is not necessarily followed by contraction of the visceral vessels.

It has been assumed that an increased blood supply in any sphere of the body would be followed by a diminution in another sphere. In reality, however, the gravity of blood is constantly changing and the regulation takes place in the capillaries. The visceral vessels are dilated in exactly the same way as the skin vessels, and physiological observation has shown that, as vessels become dilated, the blood flows more rapidly. Physiology does not furnish a single instance in which the speed of the circulation decreases with simultaneous dilatation of the vessels. In our vascular system there are two forces, the pressure and the suction force supporting each other. In an elaborate paper on the "Physiology and

Pathology of the Abdominal Muscles" (*Surgery, Gynecology and Obstetrics*, November, 1906) I demonstrated that each muscle is both a pressure and a suction pump, which exerts an effect upon the distribution of the blood, especially in the capillaries and in the distribution of fluids in the tissues.

Very often I had conversations on this subject with Dr. Dent, and we agreed that the increased metabolism caused by the continuous bath as demonstrated by cases treated in the Manhattan State Hospital might be useful in all diseases in which such increased metabolism is required, and we had phymatiasis (barbarously called tuberculosis) in view, as the disease in which the continuous warm bath might be the great remedy of the future.

I have given here a short extract of my writings on the continuous bath, not only of those published already, but also of some which exist only in manuscript, and I hope I have demonstrated the importance of the study of the physiology and the physiological effects of the continuous warm bath in disease.

173 Lexington Avenue.

IS CHRISTIAN SCIENCE A MENACE TO THE COMMUNITY?

To the Editor AMERICAN MEDICINE:—

The medical profession could scarcely justify its progressive and scientific spirit were it to fail to properly investigate Christian Science and to emphasize its true character. Likewise, if Christian Scientists are consistent they must welcome such investigation. For the benefit of humanity for which both systems claim to exist, this inquiry and expose should not fall below the standard of accurate, unprejudiced thought, nor should hasty or unjustified conclusions be drawn from admitted premises. Such practice has been too common with those who do not give their neighbor credit for serious individual thought.

The necessity for care in the matter is emphasized by certain statements in your October number. Christian Science is essentially cleanly and insists upon the

greatest purity at all times. It does not in this differ with one of the most essential tenets of hygiene and sanitation. Again it should not be supposed that Christian Scientists would be a menace to the public health in case of epidemic. They are careful to obey the law in reporting cases of disease recognized as contagious, and certainly Christian Scientists should be fearless assistants in the work of bringing help to those thus afflicted.

In any serious investigation of Christian Science it may be well to remember that Mrs. Eddy has given the name "malicious animal magnetism" to combined and specific evil in order to signify the mesmeric and destructive character which she understands it possesses. However, it is not to be expected that worthy minds will long be confused by this nomenclature.

Christian Scientists do not seek to obtrude their beliefs upon others, but desire to present a clear statement whenever one is desired.

Yours truly,
Jesse Pickard.

[The policy of AMERICAN MEDICINE is never to make a criticism and deny to the criticised the privilege of replying—always provided that personalities and vituperation are eliminated. This is nothing but simple fairness and to do otherwise would be foreign to the principles and purposes for which this publication ever intends to stand.

The above letter is so courteous and admirable in its tone that we are glad indeed to print it. In every respect, however, it is remarkable, and we doubt if anyone can read it without feeling that Christian Science is indeed an unknown quantity. The writer certainly makes statements and admissions that are diametrically opposed, not only to the teachings of the leaders but to the publications of the cult. Moreover, praiseworthy as are the sentiments expressed by the statements, "they (Christian Scientists) are careful to obey the law in reporting cases of diseases recognized as contagious," we have assuredly encountered the exact reverse. Many a physician—and clergyman too—will bear us out when we say that Christian Scientists have in the past repeatedly de-

nied the existence of such highly contagious diseases as diphtheria, scarlet fever and other diseases, and offered strenuous objection to wise and essential quarantine. The writer is personally aware of not one but several cases of contagious disease that not only were not reported by the parents—who were Christian Scientists—but were actually hidden and secreted until the offenders were forced to conform to the law. Can anyone deny that such occurrences are a real menace to any community?

If the attitude of Christian Scientists on the vital matter of contagious diseases has been changed and henceforth they will report them as recognized, we are glad indeed to give the fact the widest possible publicity. But a fear comes to us, a fear based on what we happen to know of the diagnostic ability of a considerable number of Christian Science practitioners. With the teaching they enjoy, the doctrines they absorb concerning morbid conditions and their total lack of clinical experience, what are the prospects of the Christian Science practitioner detecting or differentiating the various contagious diseases in their early stages? It is often a difficult matter for a trained physician who has repeatedly studied cases of these diseases to make a diagnosis. To assist him he almost invariably utilizes chemical, microscopical and bacteriological tests of which the Christian Science practitioner obviously knows little or nothing. In fact only with the aid of these tests can the painstaking physician successfully make rapid and accurate diagnoses. Is it reasonable to expect the Christian Science practitioner, handicapped as he is by his essential ignorance of these modern aids to diagnosis and devoid of all clinical experience, to detect these contagious diseases early enough to protect the public as it should be protected? Does not the danger of not recognizing these diseases, even granting the best of intentions in regard to reporting them as recognized and co-operating with the health authorities, of itself constitute a serious menace to the community?

Finally, if the statements in the above letter are authoritative, we do not wonder that the Christian Scientists are undergoing a period of internal discord, of controversy as to doctrines, teaching and

methods. Practice and preachment are evidently not in as close relations with each other as is necessary for the maintenance of perfect harmony. The leaders and the printed word have given to the world a conception of disease, faulty and ridiculous to be sure, but none the less clear cut in its denial of a physical basis. Now, under the stimulus of criticism, the statement is made that "they (Christian Scientists) are careful to obey the law in reporting cases of *diseases recognized as contagious*, and certainly Christian Scientists should be fearless assistants in the work of bringing help to those thus afflicted." Admirable as it is, it is not consistent and therefore must suffer when considered in the light of everything that has previously been said, written and done by Mrs. Eddy and her adherents in their attitude toward all diseases, contagious or otherwise.

If however, Mr. Pickard's letter actually indicates the future attitude of Christian Scientists towards contagious or communicable diseases and this attitude is fully substantiated by future teaching and practice, the medical profession will gladly commend the changed views, and *to the extent that actual help and co-operation is received from the Christian Scientists* in the struggle with communicable disease, will approve of Christian Science and its followers.

Editor.]

In determining the cause of a neuralgia of the fifth nerve, never overlook the possibility of the pain being the result of disease of the nasal sinuses.

Swelling of the submaxillary and submental glands is a frequent accompaniment of dental disease, especially caries, being present in at least 50 per cent. of cases.

Fracture is far more common than sprains at the wrist, so that the presumption should be in favor of the former in doubtful cases. If possible, an x-ray examination should always be made.—*Int. Jour. of Surgery.*

IMPORTANT BOOKS OF THE YEAR.

This list is not offered to our readers as including every medical book published during the year, since (with few exceptions) revised editions of books published before 1909 have been eliminated. It will be found a fairly complete list, therefore, of the really new books that have been published during the current year, classified under general topics and with accurate data in regard to author, publisher and price.

ANATOMY, EMBRYOLOGY AND PHYSIOLOGY.

Embryology. By Frederick Randolph Bailey, A. M., M. D., and Adam Marion Miller, A. M. With 515 illustrations. Published by William Wood & Company, 51 Fifth Avenue, New York.

Text-Book of Experimental Physiology. By N. H. Alcock, M. D., D. Sc., and E. O'B. Ellison, M. D., St. Mary's Hospital Medical School, University of London. With a Preface by E. H. Starling, M. D., Jodrell Professor of Physiology in the University of London. Octavo; xli+139 pages. 36 illustrations. \$1.50 net, cloth.

BACTERIOLOGY AND PATHOLOGY.

Text-Book of Pathology. By James M. Beatlie, M. A., M. D., Edin., Professor of Pathology and Bacteriology, University of Sheffield, and W. E. Carnegie Dickson, M. D., B. Sc., F. R. C. P., Edin., Lecturer on Pathological Bacteriology in the University of Edinburgh. In two volumes.

VOL. I.—General Pathology; 4 colored plates and 162 illustrations in the text. Octavo; xvii+475 pages. Cloth, \$5.00 net.

VOL. II.—Special Pathology; Octavo; xix+599 pages; 2 colored plates, and 191 illustrations in the text. Cloth, \$5.00 net. Published by P. Blakiston's Son & Co., Philadelphia.

Practical Bacteriology, Blood Work and Animal Parasitology. Including Bacteriological Keys, Zoological Tables and Explanatory Clinical Notes. By E. R. Stitt, A. B., Ph. G., M. D., Surgeon U. S. N.; Graduate London School of Tropical Medicine; Instructor in Bacteriology and Tropical Medicine, U. S. Naval Medical School; Lecturer in Tropical Medicine, Jefferson Medical College, Philadelphia. 86 illustrations. 12 mo.; xi+294 pages. Flexible cloth, round corners, \$1.50 net. Published by P. Blakiston's Son & Co., Philadelphia.

Renal, Ureteral, Perirenal and Adrenal Tumors.—*Actinomycosis and Echinococcus of the Kidney.* By Edgar Garceau, M. D., Boston, Mass. Cloth, \$5.00 net. Published by D. Appleton & Co., New York City.

CHEMISTRY, PHARMACOLOGY AND THERAPEUTICS.

Diagnostic Therapeutics. A Guide for Practitioners in Diagnosis by Aid of Drugs and Methods Other than Drug-Giving. By Albert Abrams, A. M., M. D. (Heidelberg), Consulting Physician to the Mount Zion Hospital and the French Hospital, San Francisco, etc. With 198 illustrations, some in colors. About 1,100 pp. Cloth, \$8.00. Published by Rebman & Co., 1123 Broadway, New York City.

Text-Book of Physical Chemistry. By Arthur W. Ewell, Ph. D., Assistant Professor of Physics Worcester Polytechnic Institute, Worcester, Mass. 102 illustrations, 63 tables. Small Octavo; ix+370 pages. Cloth, \$2.25 net. Published by P. Blakiston's Son & Co., Philadelphia.

The Principles of Pharmacy. By Henry V. Arny, Ph. G., Ph. D., Professor of Pharmacy at the Cleveland School of Pharmacy, Pharmacy Department of Western Reserve University. Octavo of 1175 pages, with 246 illustrations, mostly original. Philadelphia and London: W. B. Saunders Company. Cloth, \$5.00 net; Half Morocco, \$6.50 net.

Saunders' Pocket Medical Formulary. By William M. Powell, M. D., Author of "Essentials of Diseases of Children." Containing 1831 formulas from the best known authorities. With an appendix containing Posologic Tables, Formulas and Doses for Hypodermic Medication, Poisons and their Antidotes, Diameters of the Female Pelvis and Fetal Head, Obstetric Table, Diet-lists, Materials and Drugs used in Antiseptic Surgery, Treatment of Asphyxia from Drowning, Surgical Remembrancer, Tables of Incompatibles, Eruptive Fevers, etc., etc. Ninth Edition, Adapted to the 1905 Pharmacopeia. Philadelphia and London: W. B. Saunders Company. In flexible Morocco, with side index, wallet and flap, \$1.75 net.

Qualitative Chemical Analysis of Inorganic Substances with Explanatory Notes. By Olin Freeman Tower, Ph. D., Hurlbut Professor of Chemistry in Adelbert College, of Western Reserve University. Octavo. Cloth, \$1.00 net. Published by P. Blakiston's Son & Co., Philadelphia.

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tomatology, Prophylaxis, and Treatment of so-called Ptomaine Poisoning. By Prof. Dr. A. Dieudonné, Munich. Translated and edited with additions by Dr. Charles Frederick Bolduan. Authorized translation. Published by E. B. Treat & Co., 241 West 23rd Street, New York. Price \$1.00 net.

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Retinitis Pigmentosa. By William T. Shoemaker, M. D. Published by J. B. Lippincott Company, Washington Square, Philadelphia, Pa. Cloth, \$2.00 net.

Treatise on Ophthalmic Surgery. By Charles H. Beard, M. D., Surgeon to the Illinois Charitable Eye and Ear Infirmary (Eye Department), Oculist to the Passavant Memorial Hospital and the North Star Dispensary (Chicago), Member and Ex-president of the Chicago Ophthalmological Society, Member of the American Ophthalmological Society, etc. With over 295 illustrations. Octavo; 690 pages. Cloth, \$5.00 net. Published by P. Blakiston's Son & Co., Philadelphia.

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Radiation, Light and Illumination. A Series of Engineering Lectures Delivered at Union College. By Charles Proteus Steinmetz, A. M., Ph. D. Compiled and edited by Joseph LeRoy Hayden. Published by McGraw-Hill Book Company, 239 West 39th Street, New York.

A Text-Book, with Experiments, on Conduction of Electricity Through Gases and Radio-Activity. By R. K. McClung, M. A., D. Sc., Professor of Physics, Mt. Allison University, Sackville, N. B. Late Senior Demonstrator in McGill University, Montreal. Small Octavo. With 78 illustrations. XVI+245 pages. Cloth, \$1.50 net. Published by P. Blakiston's Son & Co., Philadelphia.

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The Campaign Against Microbes. By E. Burnet, M. D. Translated from the French by E. E. Austen, F. Z. S. 8 vo. 250 pages. Published by William Wood & Company, 51 Fifth Avenue, New York. Muslin, Price \$2.50 net.

The Elements of Hygiene for Schools. By Isabel McIsaac. Published by The MacMillan Company, 66 Fifth Avenue, New York. Price 60c net.

Manual of Military Hygiene, for the Military Service of the United States. By Valery Havarard, M. D., Colonel Medical Corps United States Army; President Army Medical School. 8vo. 498 pages, illustrated with 7 plates and 228 engravings. Price, muslin, \$4.00 net. Published by Wm. Wood & Co., 51 Fifth Ave., New York City.

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Pure Milk and Public Health. A Manual of Milk and Dairy Inspection. By Archibald Robinson Ward, B. S. A., D. V. M. With two chapters by Myer Edward Jaffa, M. S. With seventeen illustrations. Published by Taylor & Carpenter, Ithaca, N. Y.

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Diseases of the Digestive Canal. By Dr. Paul Cohnheim. Published by J. B. Lippincott Company, Washington Square, Philadelphia, Pa. Cloth, \$4.00 net.

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Surgical Diagnosis. By Alexander Bryan Johnson, Ph. B., M. D. Three volumes. Cloth, \$6.00 net per volume. Published by D. Appleton & Co., New York.

YEAR BOOKS OF MEDICINE.

International Medical Annual, 1909. A Complete Reference Hand-Book of Modern Therapeutics and Treatment. Published by E. B. Treat & Co., 241-3 West 23rd Street, New York. Price \$3.50 net.

International Clinics, Nineteenth Series, Volumes I, II, III, and IV. A Quarterly, published by J. B. Lippincott Company, Washington Square, Philadelphia, Pa. Cloth, \$8.00 net per year; Half Leather, \$9.00 net per year.

BOOKS FOR NURSES.

Primary Studies for Nurses: A Text-Book for First Year Pupil Nurses. By Charlotte A. Aikens, formerly Superintendent of Columbia Hospital, Pittsburg, and of the Iowa Methodist Hospital, Des Moines. 12 mo. of 435 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, \$1.75 net.

Clinical Studies for Nurses: For Second and Third Year Pupil Nurses. By Charlotte A. Aikens, formerly Superintendent of Columbia Hospital, Pittsburg, and of Iowa Methodist Hospital, Des Moines. 12 mo. of 510 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1909. Cloth, \$2.00 net.

Operative Nursing and Technique. A Book for Nurses, Dressers, House Surgeons, etc. By Charles P. Childe, B. A., F. R. C. S., Eng. 12 mo. 233 pages. Illustrated by engravings and by nine full-page plates. Published by William Wood & Company, 51 Fifth Avenue, New York. Muslin, price \$2.00 net.

Bacteriology for Nurses. By Isabel McIsaac. Published by the MacMillan Co., New York. Price \$1.25 net.

Nurses' Hand-Book of Obstetrics. By J. B. Cooke, M. D. New Fourth Edition. Published by J. B. Lippincott Company, Washington Square, Philadelphia, Pa. Cloth, \$2.00 net.

ETIOLOGY AND DIAGNOSIS.

A Study of the Tonsil.¹—Richards concludes his interesting paper as follows:

Further study of the physiology of the tonsil seems desirable, as it is still somewhat of a question as to how much importance the tonsil may be at certain periods of life, and if of value in the economy, it ought not to be removed to as great an extent as at present.

Under diseased conditions, the tonsil is one of the avenues of entrance for the tubercle bacillus and for the specific organism of rheumatism, whatever that may be. There is a sufficient amount of undoubted clinical evidence to show that it is also the avenue from which the infection enters for many other constitutional diseases.

The small submerged tonsil is quite as apt to be deleterious to the economy as the large one.

Local measures in the treatment of tonsillar troubles have their place.

The indications for removal are any condition in which it is evident that the tonsil is exerting an injurious influence upon the entire organism which cannot be averted by local treatment.

Ether is the safest general anesthetic.

According to the testimony of most observers, some form of horizontal position is the safest for general anesthesia, though the writer believes that the upright position, properly safeguarded, is equally safe.

Tonsillectomy should always be done in preference to tonsillotomy. Any method that removes the tonsil *in toto*, with its capsule, with the least traumatism, is satisfactory.

The voice is improved rather than injured, provided the pillars of the fauces are uninjured in the operation.

tions. Thus much suffering may be spared the patient who has a laryngeal growth. We should realize the value of continued hoarseness as a diagnostic symptom. The diagnosis of cancer of the larynx depends on the location of the condition, the color of the new growth, the condition of the surrounding tissues, the mobility of the vocal cord, the age of the patient, and certain subjective symptoms. Microscopic examination of a portion of the growth not confirmed by the clinical symptoms is of very little value. A tumor that is confined strictly to the true vocal cord, an intrinsic growth, may vary in color and shape. If the growth rests on the cord, with a small base, and no surrounding redness, it is generally benign. If the base is thick and the tissues infiltrated, it is malignant. Malignant growths produce loss of mobility of the cord. A slowly but constant increasing dyspnea is a sign of malignancy. Intrinsic cancers may involve the subglottic region, ventricular bands, ventricles of the larynx, and anterior surface of the arytenoid cartilages. Slight localized pain or soreness is a symptom of cancer so located. Extrinsic cancer involves the epiglottis, arytenoepiglottic folds, and arytenoids, and varies in symptoms with the location. If the epiglottis is implicated, deglutition becomes difficult. Implication of the interarytenoid folds causes early hoarseness and dyspnea. Glandular enlargement is caused by the implication of the arytenoepiglottic folds. The prognosis of cancer of the larynx is not favorable. With intrinsic cancer operation alone gives prospect of help. Extrinsic cancer necessitates often total extirpation of the larynx.

TREATMENT.

Early Diagnosis of Malignant Disease of the Larynx.²—Chappell advocates a sufficient knowledge of the laryngoscope for every general practitioner to enable him to make a diagnosis of laryngeal condi-

The Treatment of Various Symptoms Occurring in Pneumonia.¹—*Cardiac Failure.*—In slight cases a few leeches should be applied over the right heart. Oxygen, hypodermic injections of digitalin and strychnine and alcohol should be given

¹ Geo. L. Richards, M. D., Med. Record, Dec. 11, 1909.

² Walter F. Chappell, M. D., New York, Med. Record, Oct. 16, 1909.

¹ A. Latham, F. R. C. S., London Practitioner, Oct., 1909.

freely. In severe cases leeches should be applied, whilst the amount of alcohol may have to be very large, and strychnine may have to be pushed until twitching occurs. Patients often recover from what appears to be desperate heart failure in pneumonia under the influence of judicious stimulation, and no case should be abandoned until death has occurred. If cyanosis is marked, together with epigastric pulsation and prominence of the jugular veins, venesection to the extent of 6 to 8 ounces should be performed.

Cough.—This rarely requires very active treatment; expectorants, as a rule, are certainly out of place, and often do harm by interfering with the digestion. The cough, as a rule, is reflex, and serves no purpose in the early stages of the disease. When this form of cough becomes troublesome it is best met by a sedative such as Dover's powder, 5 to 10 grs., or by codeine $\frac{1}{2}$ to 1 gr. as a pill, thrice daily.

Insomnia.—Cold sponging will often bring sleep. If this fail, the best remedy in the earlier stages of the disease is morphia $\frac{1}{6}$ gr. by hypodermic injection, repeated in an hour if necessary provided that there is no marked renal inadequacy or copious bronchitis. It is essential that sleep should be obtained, and many remedies, such as sulphonal, trional, and paraldehyde, may be tried, but these usually give disappointing results. The use of veronal is not unattended with danger. We are a little liable to be afraid of morphia in dealing with pneumonia, but in my experience it can be given safely in the great majority of cases during the earlier stages of the disease, provided there is no obvious contraindication. Small doses, as a rule, are quite sufficient to produce the effect required.

Nervous Symptoms.—Mild symptoms of this kind are best met by sponging with tepid water. Severe symptoms, such as delirium, stupor, or great restlessness, call for ice to the head and cold sponging. If necessary the body may be wrapped in a sheet wrung out of water at 100° F. and then rubbed with ice. Alcohol should be given in these circumstances in frequent doses, together with the food. If the sleeplessness continue, morphia up to 1-3

gr. and 1-100 gr. atropine may be given hypodermically.

Hyperpyrexia.—Whenever the temperature rises above 104° F. the body should be sponged with water at 80° F. for 10 minutes. If the temperature continues to rise the body should be wrapped in a sheet wrung out of water at 100° F., and then rubbed with ice. If this fail, we may try the effect of a bath rapidly lowered from 100° to 80° F., for 15 minutes, the patient being very carefully watched for any sign of collapse.

Creosote in the Treatment of Pulmonary Tuberculosis.¹—Robinson states that by the combined, persistent, intelligent use of beechwood creosote *internally* and by *inhalation*, many tuberculous patients may be saved who otherwise would die. In nearly all cases, no matter what the stage of the disease, much relief to symptoms may be obtained. This treatment is very simple and inexpensive, and interferes with no other rational doing. It greatly supplements that doing.

Creosote treatment is of great value as a *preventive treatment*, when pulmonary tuberculosis is a menace to the individual, either by reason of constitutional tendency, exposure to infection, or both. To judicious rest, when required, fresh air, and proper food, add creosote treatment, with or without lime salts, and there is at present little or nothing in the way of further treatment to insist upon.

Robinson has added to his treatment of pulmonary tuberculosis on several occasions during the past few years the use of the lactophosphate of lime. Is this addition as valuable as the use of insoluble carbonate and phosphate of lime vaunted by P. Ferrier? Robinson is not yet prepared positively to state; but at least on theoretical grounds he believes it is. Is Ferrier's dietary, excluding fats and all acids, and indeed all foods that make acids in the economy, really better than what we all are and have been insisting upon in our practice, public or private? Ferrier's

¹ Beverly Robinson, M. D., Med. Record, Nov. 20, 1909.

statements, corroborated by Letulle, of Paris, are startling, to say the least, and if true, are a sad indictment of human fallibility.

Treatment of Erysipelas and Frostbite.¹—Professor Binz reports 15 cases of erysipelas that have been successfully treated by an ointment containing 15 per cent. of chlorinated lime (CaOCl_2), the result being that the fever disappeared on an average after two or three days, as compared with nine days under the methods formerly employed—namely, compresses charged with carbolic acid, corrosive sublimate, or alcohol. No complications happened and no death occurred. Professor Binz on a former occasion had recommended the substance in question for the treatment of frostbite. He states that his method has been applied in a great many cases, in only one of which were there any undesirable symptoms produced. In this case the ointment after having been applied for five days gave rise to a bullous exanthem which spread from the hands to the skin of the face and the femur. It is therefore advisable, in the first instance, to employ an ointment of only 5 per cent. strength and only over a small area without ulcerations. The irritated spots should then be washed with a solution of sodium thiosulphate of 1 per cent. strength.

The Relation of Alcohol to Immunity.²—Parkinson concludes his valuable paper as follows: 1. Alcohol in small quantities has no action upon the phagocytic activity. 2. It has no action on the phagocytic activity until it is present in 12.5 per cent. strength. 3. Small quantities of alcohol injected into rabbits may stimulate the production of antibodies temporarily. 4. A large dose of alcohol lowers the opsonic index for 24 hours. 5. Continuous moderate doses of alcohol cause a permanent lowering of the opsonic index. 6. The reacting mechanism

¹ A. Binz, M. D., Bonn, Berliner Klin. Woch., Nov. 1, 1909.

² P. R. Parkinson, B. A., M. B., London Lancet, Nov. 27, 1909.

to vaccines is much less effective in alcoholised rabbits than in normal rabbits; the difference is still more marked when living micro-organisms are used.

HYGIENE AND DIETETICS.

Diet in the Diseases Occurring in Infancy.¹—La Fetra gives some very wholesome advice concerning the feeding of sick infants.

Lack of appetite. Anorexia with or without fever. If breast fed, lengthen the intervals between the nursings and give water before the nursings. Breast milk requires from two to two and a half hours to leave the stomach under normal conditions; cow's milk requires at least three hours. When an infant has no appetite the intervals should be much longer, i. e., three to four hours. If the infant is artificially fed, diminish the number of feedings and give less and weaker food.

Vomiting. If without fever this is probably due to too large feedings, or too frequent or too rapid nursing. The indication is clearly to lessen the time of nursing and lengthen the intervals. If there are sour regurgitations and hiccoughs it may be the result of fermentation. In such cases the fats and the sugars, especially maltose, should be reduced. If the baby is breast fed the mother should take more exercise, drink more water, and lessen the quantity of meat, eggs and milk consumed.

Vomiting from pyloric stenosis demands breast milk. Cyclic vomiting will not be considered, as it occurs very rarely in infants.

Acute Gastritis. This is very rare in infants, but an analogous condition sometimes occurs in the course of measles about the second or third day of the eruption. Cool or iced lime water or weak tea is useful if anything can be retained. Rectal saline enemata may be necessary until the acute stage is over. Then whey may be given by mouth and later milk and barley water with the addition of sodium citrate.

¹ E. La F  tra, M. D., New York Med. Jour., Nov. 27, 1909.

Jaundice. Vomiting is not apt to be a marked feature after the onset, so that usually feeding by mouth is possible. Because of the deficiency of bile, fats should be avoided. Whey, buttermilk, or skimmed milk mixed with dextrinized cereals or with maltose should be given at first, later broths, whole milk, and cereal gruels.

Enterocolitis. For the purpose of giving, so far as possible, rest to the affected part, we give foods that are digested and absorbed high up in the alimentary tract; also those that leave little residue. At first water alone or barley water, plain or dextrinized. After a few days, when the temperature is down to 100° F. a teaspoonful of boiled skimmed milk may be added. If there are no bad symptoms the milk may be cautiously increased. If there is much putrefaction as shown by foul stools, buttermilk or ripened skimmed milk with or without cereal gruels is valuable. Albumin water in my experience results in intestinal putrefaction unless given in too small a quantity to be of nutritive value. Moreover, it serves as a good culture medium for bacteria.

Colitis. Should be managed much as enterocolitis, the only difference being that a larger amount of proteid and carbohydrate can be utilized.

Diarrhea. In all cases of diarrhea, whether the infant is nursed or bottle fed, the number of feedings should be reduced to the lowest possible. Food taken into the stomach excites a peristaltic wave that is apt to reach the rectum and result in a defecation if the bowel is at all irritable. Feedings at long intervals diminish the number of such impulses and give the bowel comparative rest. It should be remembered also that animal broths and peptones excite peristalsis. Boiled milk with rice, barley, arrowroot, or wheat flour gruel or legume flour gruel are the best forms of food at first. It may be necessary to skim the milk and use no sugar. Malted foods should be used with caution.

As soon as the diarrhea has ceased, the diet should be cautiously increased. Many infants are starved too long after summer diarrhea or colitis. The prolonged use of a barley water diet is responsible for many of the severe cases of malnutrition seen at

the end of the summer. As soon as possible but gradually the return should be made to whole milk and cereal gruels. The addition of the yolk of egg, if not vomited, is of great help in overcoming the anæmia.

Constipation. The breast fed baby is seldom constipated unless the milk is failing. In such cases toning up the mother or if necessary supplementary feeding corrects the constipation. In bottle fed infants we may cautiously increase the amount of fat—never, however, beyond four per cent.—and we may substitute maltose for part or all of the milk sugar. Additional cream unfortunately often does harm and if given in large amounts may cause refusal of food and later vomiting and diarrhea, or even an aggravation of the constipation. Peptonizing the food with extractum pancreatis by increasing the peptone and maltose may be of help. Broths, beef juice, orange juice sometimes, and prune juice nearly always, are of aid. To older infants the malted cereals, unstrained oatmeal, and cornmeal mush, together with apple sauce and prune pulp, should be given.

Typhoid fever. This disease is uncommon in infants. Water given with regularity is most important. Milk plain or peptonized or, if it is liked, buttermilk or ripened milk should be the basis of the diet. Kumyss, containing a little alcohol is also good. Along with the milk there should be given gruels or gelatin. The carbohydrates by their end products combat the putrefactive bacteria in the lower intestine—including the typhoid bacillus. There may be an idiosyncrasy for certain foods to produce distention. Typhoid is a long disease and infants cannot endure starvation as can adults. Therefore the caloric requirements should be kept constantly in mind and approximated as nearly as possible. Many of the late symptoms of typhoid are undoubtedly connected with starvation.

Pneumonia. Since this is usually a short disease our main object should be to furnish abundant water and alkalis and to prevent abdominal distention. A water diet is best for the first two or three days; then whey or milk and cereal gruels dextrinized or peptonized. Broths and

liquid peptonoids are also useful changes. Orange juice, grape juice, and lemonade are of distinct advantage.

In empyema there is a great loss of protein, as shown by the peptones in the urine. We must in all suppurative processes be careful to give as much proteid food as can be taken care of.

Scarlet fever and the exanthemata. Here again abundant water is of prime importance; the amount of fluid ingested should be regularly measured and compared to the urinary outgo. Modified milk is the best diet for lessening the tendency to nephritis. The cereal gruels should be used in the modification. Meat extracts and alcoholic preparations are contraindicated.

Diphtheria. Here we have a powerful toxine to combat—and the tendency to degenerations in the kidneys. Peptonized milk, beef juice, and gruels should be used and all should be given as warm as possible.

Mumps. Salty, sweet, or acid foods, or those that require chewing, increase the secretion of saliva and so cause tension and pain in the salivary glands. Tasteless liquid food should, therefore, be used, such as gruels made with milk or diluted milk.

Pertussis. The infant should be fed as soon as the stomach is settled after the vomiting attacks; only by frequent feeding can one avoid the emaciation so apt to supervene in severe cases. The food should be liquid, since the passage of a bolus down the oesophagus is apt to irritate the trachea and induce a paroxysm. Diarrhoea, which is not uncommon, should be managed as already advised.

Rheumatism is almost unknown in infants. When it occurs the diet should be managed as for any febrile infection.

Tuberculosis. In infants this disease is either a meningitis, or else pulmonary or glandular. In tuberculous meningitis we soon have to resort to gavage by either mouth or nose. As regards the diet we must feel as we would in health, making a modification only as the fever compels and giving as full a diet as can be properly assimilated. The use of large quantities of fats or oils or of proteids disturbs the digestion and defeats our purpose.

Fresh air, the optimum quantity of all the three great classes of food stuffs, and careful attention to the gastrointestinal functions—these are the best we can do for such patients.

GENERAL TOPICS.

Remarkable Increase of Deaths in America from Diseases of the Heart and Kidneys.—A remarkable pamphlet has been issued to the policyholders of the Provident Savings Life by President Rittenhouse of that company. Many graphic charts showing increase of certain diseases are included. In part Mr. Rittenhouse says:

The loss of adult American life from the more important non-communicable diseases has increased with extraordinary rapidity.

Allowing for the increase in population, about two persons die now where one died thirty years ago from preventable or postponable diseases of the heart, arteries, kidneys and brain.

This fact may be known to those who study the trend of vital statistics, but it is important that such knowledge should be conveyed to the general public whose support is necessary to the success of any effective movement for State aid.

Here are some of the changes in the death-rate in various localities from the diseases named, since 1880:

Disease, heart, arteries, apoplexy; locality, England and Wales; death rate, decreased, 7%.

Disease, heart; locality, Massachusetts; death rate, increased, 105%.

Disease, heart; locality, U. S. Registration Areas; death rate, increased, 57%.

Disease, apoplexy; locality, Massachusetts; death rate, increased, 135%.

Disease, apoplexy; locality, U. S. Registration Areas; death rate, increased, 84%.

Disease, kidneys; locality, Chicago; death rate, increased, 167%.

Disease, kidneys; locality, Connecticut; death rate, increased, 139%.

Disease, kidneys; locality, U. S. Registration Areas; death rate, increased, 131%.

Disease, kidneys, heart, apoplexy (combined); locality, U. S. Registration Areas; death rate, increased, 83%.

During the same period the mortality rate from consumption has decreased in Greater New York 41 per cent., and in the United States Registration Areas 49 per cent.

AS TO THE CAUSE.

What has caused this astonishing and wholly disproportionate increase in the death rate from these degenerative diseases (heart, kidney, apoplexy) of the preventable or postponable class?

The theory that medical treatment and other means of preventing deaths in the younger ages have increased the number of weakened lives to be attacked by diseases of middle life and old age, and therefore caused an increase in the death-rate in those periods, may account for a small portion of the increase.

That the mortality in this country from some of these diseases is so much greater than in England and Wales would indicate a local cause.

The natural conclusion is that this abnormal increase in the death-rate from the early wearing out of these vital organs is due to excess in eating, drinking, working, playing—in short, intemperate living, and the “strenuous life.”

REACHING INTO THE PRIME OF LIFE.

In the natural order of things these affections should be confined to old age, but they are not.

The researches of Dr. Eugene L. Fisk, Medical Director of the Provident Savings Life Assurance Society, and of other students of this problem, show that these degenerative diseases are reaching down into the younger ages, and cutting off thousands of lives in the most useful period of their existence.

Why, for instance, should the general death-rate of middle life and old age increase at a rapid rate in Massachusetts since 1880, while it decreased in England and Wales, as indicated in the following table:

1880-1907.		1880-1907.	
Ages. England and Wales.		Ages. Massachusetts.	
25 to 35 Decreased,	34%	20 to 30 Decreased,	41%
35 to 45 Decreased,	25%	30 to 40 Decreased,	15%
45 to 55 Decreased,	11%	40 to 50 Increased,	35%
55 to 65 Decreased,	3%	50 to 60 Increased,	24%
65 to 75 Increased,	3%	60 to 70 Increased,	34%

THE RISING DEATH-RATE IGNORED.

The science of sanitation and disease prevention has steadily advanced, and yet the death-rate from these degenerative maladies has increased by leaps and bounds.

The fact that the mortality in the younger lives is decreasing is very gratifying, but it offers no excuse for ignoring the extraordinary increase in mortality in middle life and old age.

Under our present system, we try to protect a man from a disease which another might give him, but without the slightest help, permit him to die of a disease which he may unknowingly give himself.

To the person whose life is threatened by accident or by consumption, or other communicable malady, we say: “Beware! Your life is precious, step over here out of danger.”

To the person whose life is threatened with disease of the kidneys, heart or brain, we say: “You may die. We have no time nor money to spend on you.”

Far more people die from these degenerative diseases than die from contagious or epidemic diseases. Why should we throw the life-line to one class and deny it to the other?

It may, perhaps, be easier to reduce the death-rate from communicable than from non-communicable disease, but is a life lost by typhoid, for example, of any more value to the bereaved family, to the State, or to posterity, than a life lost by kidney disease? Both dangers are avoidable if discovered in time.

Why should the State not make an earnest and vigorous effort to protect and prolong *both* of these lives?

Opportunity in Medical Practice.—

“Do not misapprehend the dignity and importance of your efforts because of the humble station in life of your patient. The country doctor whose homely science restored Abraham Lincoln to health in boyhood days, probably made a larger contribution to the needs of humanity than did the brilliant surgeons who operated on

Napoleon III or the Emperor Frederick. It might be well to remember this, gentlemen, as you sit at the bedside of some bare-ankled girl or some freckle faced boy. Only a large perspective reveals the true relations of things."—*McWhorter*.

Is There a Venereal Peril For Us?¹—

In a truly remarkable paper Hoff handles a very important subject without gloves. His ideas are not new and many of them have been presented before, but never more forcefully or more earnestly. The article should be given the greatest possible publicity among intelligent people, for the conditions described must be seriously considered in the near future. As the author says:

We of the United States have a serious peril confronting us, which threatens national venereal infection. Strange to say there are not lacking those who discourage all effort to control venereal disease on the ground that such control encourages vice. Indeed, so strong is this sentiment that our Government does not attempt to protect its citizens against these infections, though it does so against all other infectious diseases.

The sexual instinct is a condition, not a theory, and its demands are not always controllable. Some of our people will act from instinct rather than reason, do what we may to inform them. Could such alone be made to suffer for their immoral practices, we might dismiss the subject, as an economic proposition, without further consideration. Unfortunately this is impossible, consequently every person exposed to the probability of venereal infection should be protected against himself, otherwise he becomes a possible nuisance to the community, threatening the health of the innocent and guilty alike. More than that, threatening generations unborn and the very existence of the race.

"No considerations of a moralizing tendency should be opposed to the prevention of so disastrous a calamity" as universal venereal infection among our people.

¹ John V. R. Hoff, A. M., M. D., U. S. Army Med. Record, Nov. 27, 1909.

NEWS ITEMS.

The Radium Institute of America was formed at a meeting in the building of the New York Yacht Club recently. The purpose is to study radium, discover any radioferous deposits in the United States, and buy quantities of it in Europe for clinical use in the United States. It is the idea of the founders to establish a clinic in connection with some New York hospital, where radium treatment will be administered free to those needing it. The institute will take steps to protect the public from the false claims of patent medicine manufacturers that certain of their remedies contain radium, and will set a standard that those desiring to deal in radium commercially will have to live up to. Dr. Charles F. Chandler was elected president; Dr. Robert Abbe, vice-president; Prof. William Hallock, secretary; Prof. George B. Betram, assistant secretary, and Dr. Hugo Lieber, treasurer.

Rules of Health.—The Department of Health of the city of Chicago has issued the following rules of health to prevent pneumonia: 1. Avoid poorly ventilated and foul smoking cars. 2. Keep your bedroom windows open at night. 3. Don't overeat. This is a particularly dangerous practice in winter time. 4. Avoid overindulgence in alcoholic drinks. 5. Don't go into the cold air in an overheated condition. 6. Don't be a "draught crank." You need all the pure air you can get. If you wouldn't coddle yourself so much you would get purer air to breathe and your chances of avoiding pneumonia would be much better.

The Medical Association of the Southwest.—This organization, whose membership is limited to the members of constituent State associations of Missouri, Arkansas, Texas, Kansas, and Oklahoma, met in annual session recently at San Antonio, Texas. Officers for the ensuing year were elected as follows: Dr. G. H.

Howard, of San Antonio, Tex., president; Dr. Howard Hill, of Kansas City, Mo., first vice-president; Dr. C. E. Bowers, of Wichita, Kans., second vice-president; Dr. D. A. Meyers, of Lawton, Okla., third vice-president; Dr. A. J. Vance, of Oklahoma City, fourth vice-president; Dr. F. H. Clark, of El Reno, Okla., secretary and treasurer, reelected; executive committee, Dr. S. Grove Burnet, of Kansas City, Mo.; Dr. J. S. G. Sell, of Wichita, Kan.; Dr. E. S. Lane, of Oklahoma City; Dr. J. A. Foltz, of Fort Smith, Ark.; Dr. E. H. Cary of Dallas; Dr. C. E. Bowers, of Wichita, Kans., chairman of committee on arrangements. The next meeting of the association will be held in Wichita, Kans., in October, 1910.

Eastern Medical Society.—At the regular annual meeting of the Eastern Medical Society held December 10, 1909, the following officers were elected for 1910: President, Dr. J. Rongy; first vice-president, Dr. A. Hymanson; second vice-president, Dr. M. M. Stark; recording secretary, Dr. M. O. Magid; corresponding secretary, Dr. H. E. Isaacs; treasurer, Dr. J. Bieber; trustee, Dr. Chas. Goodman; chairman committee on ethics, Dr. D. Robinson; chairman committee on admissions, Dr. S. Jacobson; chairman committee on house, Dr. D. J. Hyman; chairman committee on library, Dr. Emil Altman.

BOOK REVIEWS.

The title of Miss E. Marguerite Lindley's book, "Health in the Home" recommends itself, especially as the author's work is always authenticated by physicians of note before it goes to print. She has the easy knack of breaking the bread that physicians make into loaves rather too large for the laity to handle, and she breaks them into such agreeable pieces that her

books are always interesting, as well as healthful. "Health in the Home" is now in its third edition. In this last revision a new chapter has been added, entitled "Nerves and Nervousness, Sleep and Sleeplessness," and in this age of nerve frazzle it is particularly to the point. It is neither wordy, vague nor meaningless but anyone may easily adapt the suggestions to individual advantage. She does not recommend methods that are a bugbear, but aims to set one thinking on the duties of self-preservation, and the possibilities of attaining to it. She makes the ruling power of the nerves, the limitations of the individual, personality, temperament, and a score of other nerve facts that should be a part of one's general education, both pertinent and paramount. "Do your own thinking but keep your thinker thinking right" is the motto in her lectures as well as her written work. The book is published by the author, price \$1.00.

E. MARGUERITE LINDLEY,
Murray Hill Hotel, New York.

If in a case of epididymitis the swelling persists for any length of time, it is well to think of the possibility of a tuberculous process.

Before attempting taxis in a strangulated hernia it is good practice to wash out the stomach and give a rectal enema as warm as it can be comfortably borne.

Reappearance of the discharge in an apparently cured gonorrhea may be the result of a reinfection of the urethral mucosa by gonococci which have lingered in the paraurethral ducts.

In congenital inguinal hernia the presence of retained testicle in the canal is of common occurrence.

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